State of Missouri

Digital Opportunity Plan

Missouri Department of
Economic Development

The following document represents the most up to date version of the State of Missouri Digital Opportunity Plan. This document includes updates to the plan made in response to feedback received from the National Technology and Information Administration on the initial draft submission of the plan. The changes made are listed below and can be found highlighted throughout the document.

Comment from NTIA	Alteration to the Digital Opportunity Plan
(pgs 131-138) Section 4.9 Alignment with Existing State Efforts discusses in general how the measurable objectives interact with Missouri's (a) economic and workforce goals, (b) educational outcomes, (c) health outcomes, and (d) civic and social engagement. There is no assessment of how the measurable objectives impact (e) delivery of other essential services. Connection to covered populations is implied, but should be clarified.	OBD added language to clarify the ways in which the attainment of the state's digital equity goals will impact "delivery of essential services." Particular emphasis was placed on explaining how the goals of this plan will support the goals of Missouri's Digital Government Transformation initiative.
(pg 24-25) The plan lists and links local plans, but does not indicate how these plans informed the development of the state's plan or goals. Instead, it says the state plan will comply with local plans, which may be a risk to program implementation if these are not addressing CPs or the state goals. Please add summary information for each local plan and an explanation of how those identified activities and/or needs are addressed in the state plan.	OBD provided additional language to section 3.1.3 summarizing the major points of each identified local and/or regional digital equity plan as well as the ways each plan guided the composition of the state's Digital Opportunity Plan.
(pg 124 and attachment uploaded of survey data) A record of public comments received is included. A written response to each comment is not included in the plan or in the record, and there is no description of changes made to the DE Plan in response to comments received. Due to the formatting limitation, the full text of the questions is not included in the uploaded record. Please amend the Plan document to include an appendix of the public comment and action taken as a result.	A list of the comments received from the public that contained commentary which directly influenced the composition of the plan, and the actions taken in response, were added to the appendix.

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Chapter 1:
Executive Summary

Missouri Department of
Economic Development

1 Executive Summary

This plan is intended to serve as a comprehensive guide to the actions the State of Missouri intends to pursue in order to rectify inequities within the digital economy. By recognizing those inequities and posing concrete actionable solutions the Missouri Office of Broadband Development (OBD) hopes to build a more equal and prosperous home for all Missourians regardless of demography or geography.

The digital divide is real, and the effects threaten the continued prosperity of the State of Missouri. Nearly 80% of Missourians fall into one of the populations most acutely impacted by the digital divide; over 33% of Missourians lack a computer or tablet; and 18% of Missourians are completely disconnected from the internet.[1] In the digital era these numbers are concerning, and significantly impact the state's economic and social development outlook. In order to address these discrepancies, the State of Missouri will utilize the funds provided by the Digital Equity Act (DEA) to expand digital opportunities across the State.

Missouri recognizes that the work needed to bridge the digital divide cannot be accomplished without the support and contributions of community partners. Effective service delivery requires both institutional and community support. During the composition of this plan the state established partnerships with several entities throughout the state. The effectiveness of those partnerships has prepared the state to build future coalitions to support the expansion of digital opportunities. Those partnerships, highlighted by the support of the University of Missouri system, have allowed OBD to gather the information about the current state of digital inclusion throughout the state. OBD will continue to foster these partnerships along with the support of the public and Missouri institutions in all DEA-supported work.

The digital inclusion space within Missouri is impacted by scarcity, from a financial, material, and personnel perspective. These challenges manifest themselves differently in Missouri's diverse regions. The urban regions of the state, primarily St. Louis, Kansas City, Springfield, and Columbia have many community serving institutions capable of performing digital inclusion programming. However, in these areas additional funding will be necessary to fully address the needs. Generally speaking, the rural areas of the state currently lack digital inclusion programming. While progress is being made in rural areas, addressing these challenges will require a substantial portion of DEA funding.

The DEA represents a real opportunity to overcome some of the historic challenges impeding Missouri's social and economic progress within the digital economy. The funding represents the largest single investment in digital inclusion in the nation's history. Whether that funding is sufficient to truly and completely bridge the digital divide remains unknown. As such, OBD is committed to using the entirety of Missouri's share of those funds to build a digitally inclusive ecosystem that is effective, and sustainable for both the short and long-term. By building an ecosystem that remains in place beyond the life of the DEA, Missouri can ensure that Missourians always have access to the full suite of tools and skills necessary to remain fully engaged with the digital economy.

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[1] U.S. Census Bureau; National Telecommunications and Information Administration, 2022

Chapter 2:
Vision and Introduction

Missouri Department of
Economic Development

2 Vision and Introduction

2.1 Vision

As an office within the Missouri Department of Economic Development (DED), OBD is primarily concerned with enabling citizens to utilize the full capacity of the internet in order to enhance economic outcomes. As such, OBD strives every day to realize the vision of a Missouri where every citizen, regardless of their financial, geographic or demographic background, has access to the complete set of digital skills, technology, and resources necessary to realize their full potential within the digital economy.

2.2 Introduction

The State of Missouri has long been a place where creativity is nurtured, innovation is encouraged, invention is supported, and free enterprise prospers. As a result, Missouri has remained at the forefront of technology design and development for decades. The accomplishments of Missourians like Jack Kilby, James Fergason, and Andrew Taylor Still (inventors of the microchip, LCD TV, and osteopathic medicine respectively) are a testament to the grand feats Missourians can accomplish when provided the support necessary to foster innovation.

Progress and achievement in Missouri have not been limited to the fields of science, technology, and business; Missourians have also made grand contributions to the social progress of the nation. Missouri has birthed countless trailblazing civic and social pioneers who refused to be held back by convention or social expectation, including icons like Phoebe Wilson Couzins (first female US Marshall), Lemma Barkaloo (first female trial lawyer in US), and Annie White Baxter (first female county clerk in US). Examples of such momentous events include the founding of the Negro National League in Kansas City, the resolution of the legal case White v Grant, guaranteeing a woman's right to property, and Lucile Bluford's long running and ultimately successful fight for desegregation. Missouri is a state where motivated citizens can unite behind a common cause to effect positive change for society.

As the world enters the 21st century, progress has been driven primarily by developments in the fields of telecommunication and information technologies. It is clear that the digital divide, the gap between those who have affordable access, skills, and support to effectively engage online and those who do not,[2] will remain one of the primary obstacles to ensuring equal access to economic prosperity.

The State of Missouri is acutely impacted by the digital divide as a result of the state's diverse geography and demography. The state is large with regions that differ substantially in geography, topography, and hydrology. The varied geography complicates broadband infrastructure expansion. Efforts to *Connect all Missourians* are further complicated by the diverse composition of Missouri's population. Nearly 80% of Missouri's citizenry fall into one of the covered populations,[3] which reflect the groups most adversely impacted by the digital divide.

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[2] National Digital Inclusion Alliance (NDIA), n.d.

[3] The term "covered populations" means: 1. Individuals who live in covered households; 2. Aging individuals; 3. Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility; 4. Veterans; 5. Individuals with disabilities; 6. Individuals with a language barrier, including individuals who— a. Are English learners; and b. Have low levels of literacy; 7. Individuals who are members of a racial or ethnic minority group; and 8. Individuals who primarily reside in a rural area. 47 U.S.C. § 1721.

As with the citizens of every state across the country, the social and economic benefits enabled by the technological advancements of the last century have not equally benefited all Missourians. Despite the presence of a diverse range of internet service providers (ISP), large swaths of the state, primarily concentrated in low income and rural areas, have remained disconnected. A combination of factors including stagnate or declining population, geography, economic output, issues of affordability and digital redlining have all contributed to the disparity.

While digital inequities have always existed, the major disruption caused by the COVID-19 pandemic exacerbated the impact and elevated the importance of connecting all Americans. As workplaces and classrooms shifted online the symptoms of insufficient connectivity--frozen screens, buffering videos, declining outputs, and falling academic performance,[4] revealed the importance of reliable and affordable high-speed internet and the complementary knowledge and technical capacity to use it. Missourians throughout the state still suffer as a result of these disparities in access.

The effects of inequitable access to the three pillars of digital inclusion are borne not only by the disconnected, but by all Americans. Over $130 million a day in economic activity is lost to the maleffects of the digital divide.[5] In the absence of affordable internet access, low-income Missourians are forced to prioritize where to spend scarce financial resources. Those who lack the skills or knowledge necessary to *fully* engage with the internet become, at best, one-way contributors whose earnings can fuel the growth of others but do little to advance their own growth. In the worst-case scenario, a lack of basic online privacy and security knowledge can cause actual harm to their person or personal circumstances.

Conversely, by promoting a digitally equitable society and introducing digitally inclusive policies and programs, the lives and personal circumstance of all Missourians are enhanced. Peer-reviewed studies have repeatedly demonstrated that a digitally inclusive society leads to increased economic performance in adults,[6] improved academic outcomes for students,[7] decreased recidivism in formerly incarcerated peoples (FIP),[8] and the cumulative effect of these developments is an overall improvement in quality of life.

In order for Missouri to remain one of the best places to raise a family and ensure continued prosperity in the decades to come it is critical that the state do everything possible to counter the causes that continue to perpetuate the digital divide. In doing so, it will assure that this state continues to be a place where all Missourians can prosper.

This mission cannot be accomplished via the efforts of government alone. While primary responsibility for planning and implementation of the DEA funding will rest with the State of Missouri, the scale of the work needed to achieve true equal opportunity for all will require contributions from and collaboration amongst governments, the private sector, and, community-based organizations. Each of these three groups possess specialized knowledge and insights which will contribute to building a more digitally inclusive Missouri.

 Missouri is and will remain a state that seeks to partner with and empower individual communities enhance their own lived experiences. Despite that fact, and particularly for rural

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[4] Auxer & Anderson, 2020; Lee, 2019; Vogels, 2021
[5] Lores, 2021
[6] Fritz & Littmann, 2021
[7] Office of Education Technology, 2022
[8] Reisdorf & DeCook, 2022

areas of the state, there remain discrepancies in the capacity of small communities to perform certain types of service delivery. In areas where communities may lack the capacity to deploy DEA assets, OBD will ensure sufficient coverage to meet their needs. In those instances, OBD will still rely on the knowledge and expertise of local community members to guide the provision of those services.

Digital equity refers to the "condition in which individuals and communities have the information technology capacity that is needed for full participation in the society and economy of the United States."[9] This plan will map the current state of digital equity throughout Missouri. It will also outline the current barriers faced by Missouri's covered populations, the resources available to Missourians to overcome those barriers and finally, the time necessary and requisite actions OBD will take to eliminate said barriers. In doing so, the State of Missouri will elevate the importance of expanding digital opportunity for all to the same level as physical infrastructure expansion. This will guarantee a more prosperous and equitable future for all Missourians.

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[9] IIJA, 47 U.S.C. § 1721(10).

Chapter 3:

Current State of Digital Equity

Assets and Challenges

Missouri Department of
Economic Development

3   Current State of Digital Equity: Assets and Challenges

3.1   Asset Inventory

OBD has identified the following non-exhaustive list of resources as being available for the use of Missourians in order to help them develop the core competencies necessary to be fully engaged within the digital economy. The majority of these resources are online-based, which inherently limits the accessibility to those capable of connecting to the Internet. To combat this inaccessibility, OBD is committed to developing solutions which enable the digitally disconnected to access the services and resources necessary to enable their full participation online.

3.1.1   National Resources

The following resources are provided by institutions or organizations with a multistate or national presence. These resources are intended to help connect communities with the information technology resources necessary to be a fully engaged and active participant online.

- AARP (https://www.aarp.org/)
    - AARP is the nation's largest nonprofit, nonpartisan organization dedicated to empowering Americans 50 and older to choose how they live as they age. With a nationwide presence, AARP strengthens communities and advocates for what matters most to the more than 100 million Americans 50-plus and their families: health security, financial stability and personal fulfillment.

    - On health security, AARP fights to protect Medicare, expand access to health care, lower prescription drug prices, support caregivers and protect nursing home residents. On financial stability, they fight to protect Social Security, establish savings plans for workers and stop scams and fraud. They also work to combat age discrimination in the workplace and speak up for the vulnerable and underrepresented on issues like affordable housing, broadband access, and food security.

    - AARP also offer online classes online free online classes in major digital as well as life skills via their Senior Planet platform. In select areas they also offer in person classes for those who prefer the in-person experience.

- Affordable Connectivity Program (https://www.getinternet.gov/apply)
    - The Affordable Connectivity Program (ACP) provides eligible households with a discount on broadband service and connected devices. The benefit provides a discount of up to $30 per month toward internet service for eligible households and up to $75 per month for households on qualifying Tribal lands. Eligible households can also receive a one-time discount of up to $100 to purchase a laptop, desktop computer, or tablet from participating providers. The ACP is limited to one monthly service discount and one device discount per household.

- Be Internet Awesome (https://beinternetawesome.withgoogle.com/en_us)

- o Be Internet Awesome teaches kids the fundamentals of digital citizenship and safety so they can explore the online world with confidence and teaches children the basic knowledge and skills required for being safe online.

- Benton Institute ACP Enrollment Performance Tool (https://www.benton.org/acp_tool)
  - o This tool was created to help any community answer the question: "How are Affordable Connectivity Program sign-ups going?" The tool displays the actual level of ACP enrollment in the ZIP code area, the predicted level of ACP enrollment, and how well the area is performing in comparison to the norm. The difference between predicted and actual enrollment is an ACP performance measure.

- Digital Progress ACP Congressional Map (https://map.digitalprogress.tech/)
  - o This is an interactive map that provides congressional district level detail on ACP enrollments numbers.

- DigitalLearn.org (https://www.digitallearn.org/cms_pages/about-digitallearn-org)
  - o The Public Library Association's (PLA) site, DigitalLearn.org is an online hub for digital literacy support and training. The site launched in June 2013 and builds upon and fosters the work of libraries and community organizations as they work to increase digital literacy across the nation.

    Included in DigitalLearn.org is a collection of self-directed tutorials for end-users to increase their digital literacy. Feedback from public library staff directed PLA to develop courses on the most basic skills, such as using a computer, navigating a web site, and searching. Modules are video-based with narration, typically 6 to 22 minutes long, written in plain language (communication learners can understand the first time they hear or read it), and often at an elementary to middle school reading level. DigitalLearn.org provides intentional, foundational instruction to be taken at the pace of the learner. DigitalLearn.org courses can also be adapted to support other teaching methods, including instructor-led classroom instruction and just-in-time individual assistance.

- Education Superhighway (https://www.educationsuperhighway.org/)
  - o Education Superhighway (ESH) is a national non-profit with the mission to close the digital divide for the 18 million households that have access to the Internet but can't afford to connect. It focuses on America's most unconnected communities, where more than 25% of people don't have Internet. ESH currently offers four digital inclusion resources for communities and digital equity practitioners to utilize.
    - ▪ ACP Enrollment Assistance Tool
      - The ACP Enrollment Assistance tool assists eligible households to quickly find out if they qualify for the ACP, what documents they need to apply, and how to connect to plans that are free with the ACP.

- Broadband Adoption Program for Cities and School Districts
  - ESH's Broadband Adoption Program support pilot cities and school districts in the roll-out of their broadband initiatives to ensure that their unconnected households get quickly enrolled and gain home access.

- Free Apartment Wi-Fi Program
  - The Free Apartment Wi-Fi program can connect 9 million people who live in multi dwelling units (MDUs) to reliable home internet. ESH partners with states, cities, building owners, and property managers to deploy building-wide Wi-Fi through managed service solutions that are cost-effective and simple to implement for building owners and free to residents.

- K-12 Bridge to Broadband
  - K-12 Bridge to Broadband enables states or school districts to submit anonymized student addresses and receive back a list of unconnected addresses and the ISPs that can connect them for remote learning. The program is built around a data exchange platform that enables states and school districts to partner with an ISP to identify unconnected student households and optimize their use of federal funding. With data sharing agreements in place, states and school districts share de-identified student addresses with ISPs using their secure data exchange platform. ISPs confirm if they currently serve each address or if they can serve each address, resulting in a complete dataset that identifies unconnected student households. States or school districts can then use this actionable data to procure Internet services on behalf of their students or make families aware that they may be eligible for federal subsidy programs.

- E-Rate (https://www.usac.org/e-rate/)
  - The schools and libraries universal service support program, commonly known as the E-rate program, helps schools and libraries obtain affordable broadband. Eligible schools, school districts and libraries may apply individually or as part of a consortium. Funding may be requested under two categories of service:
    - Category one - services to a school or library (telecommunications, telecommunications services and internet access), and
    - Category two - services that deliver internet access within schools and libraries (internal connections, basic maintenance of internal connections, and managed internal broadband services).

    Discounts for support depend on the level of poverty and whether the school or library is located in an urban or rural area. The discounts range from 20% to 90% of the costs of eligible services. E-rate program funding is based on demand up to an annual Federal Communications Commission-established cap of $4.456 billion.

- EveryoneOn (https://www.everyoneon.org/)
  - EveryoneOn provides free access to their Offer Locator tool which helps people learn about internet offers, device offers, and digital literacy training providers in their community. They can access this information by visiting www.everyoneon.org. EveryoneOn also provides open access to their Digital Learning Center, operates a Senior Tablet Training Pilot Program, and has created the Digital Communities digital skills curriculum.

- Healthcare Connect Fund (https://www.usac.org/rural-health-care/healthcare-connect-fund-program/)
  - The Rural Health Care program funds two types of services. You can apply for funding for voice and data, broadband, or both:
    - If you need voice and other telecommunication services, you may be eligible for funding through the Telecommunications Program.
      Discount Rate: Determined using the urban/rural differential.
    - If you need broadband services, network equipment, etc., you may be eligible for funding through the Healthcare Connect Fund (HCF) Program.
      Discount Rate: Flat 65% discount on eligible expenses.

- High Cost (https://www.usac.org/high-cost/)
  - The High Cost program provides support through more than a dozen separate legacy and modernized funds to eligible telecommunications carriers (ETCs) to deliver affordable voice and broadband service in rural areas that would otherwise be unserved or undeserved. The legacy funds support voice service and the modernized funds that make up the Connect America Fund (CAF) program are bringing broadband to rural America.

  - State utility commissions must certify that carriers under their jurisdiction are eligible to receive High Cost support in their states and use all support only to provide, maintain, and upgrade the facilities for which the support was intended. Carriers that self-certify (i.e., ETCs not subject to state jurisdiction) must certify that they use all High Cost support only to provide, maintain, and upgrade the facilities for which the support was intended.

  - The FCC designates unserved or underserved rural communities – places where the market alone cannot support the substantial cost of deploying network infrastructure and providing connectivity – as areas eligible for support.

- Lifeline Program (https://www.lifelinesupport.org/)
  - Since 1985, the Lifeline program has provided a discount on phone service for qualifying low-income consumers to ensure that all Americans have the opportunities and security that phone service brings, including being able to connect to jobs, family, and emergency services. Lifeline is part of the Universal Service Fund. The Lifeline program is available to eligible low-income consumers in every state, territory, commonwealth, and on Tribal lands. The Lifeline

program is administered by the Universal Service Administrative Company (USAC). USAC is responsible for data collection and maintenance, support calculation, and disbursement for the low-income program. USAC's website provides information regarding administrative aspects of the low-income program, as well as program requirements.

- Mobile Beacon (https://www.mobilebeacon.org/)
  - Mobile Beacon was founded by one of the largest Educational Broadband Service (EBS) providers in the United States. The mission of EBS, to power education through broadband, is the keystone of this organization. Mobile Beacon provides several resources for nonprofits to utilize.

- Mobile Citizen (https://mobilecitizen.org/)
  - Mobile Citizen, a Voqal project, provides low-cost mobile internet with unlimited data plans exclusively to nonprofit organizations, educational entities, libraries and social welfare agencies. Championed by a national collaboration of Educational Broadband Service EBS licensees, Mobile Citizen's internet service is available nationwide. Mobile Citizen offers two services in support of this goal:
    - Mobile Hotspot Devices
      - Mobile Citizen hotspots provide internet access on a variety of devices including laptops, Chromebooks and smartphones. Mobile hotspots use the T-Mobile network to connect to the internet and provide a secure connection. Devices come with 5G, 4G LTE and/or 4G internet service and unlimited data.
    - Affordable Wireless Internet
      - Mobile Citizen offers two low-cost Internet plans, one for general consumers and one exclusively for nonprofits, schools, libraries and social welfare agencies. Both plans offer annual service for $120 per year, 4G and 5G LTE internet service, and don't include additional overage charges.

- National Digital Inclusion Alliance (NDIA) (https://www.digitalinclusion.org/)
  - NDIA combines grassroots community engagement with technical knowledge, research, and coalition building to advocate on behalf of people working in their communities for digital equity. NDIA accomplished this task via four main activities:
    1. Supporting on-the-ground digital inclusion practitioners and advocates.
    2. Advocating for local, state, and federal policies to promote digital equity and support local digital inclusion strategies.
    3. Educating policymakers, the media, and potential partners about the need for digital equity and the work of local digital inclusion programs.
    4. Conducting, supporting and promoting data-gathering and research that can inform public understanding, public policy, and community strategies related to digital inclusion and equity.

- National Federation of the Blind (https://nfb.org/)

- o The National Federation of the Blind is the oldest and largest nationwide organization of blind Americans. Founded in 1940 and currently headquartered in Baltimore, the NFB consists of affiliates, chapters, and divisions in all fifty states, Washington, DC, and Puerto Rico. Through their network of blind members, they coordinate many programs, services, and resources to defend the rights of blind Americans, provide information and support to blind children and adults, and build a community that creates a future full of opportunities.

- Npower (https://www.npower.org/)
  - o NPower creates pathways to economic prosperity by launching digital careers for military veterans and young adults from underserved communities. In today's economy, over 50% of all jobs require some degree of technology and digital skill. Upon completion of the program, participants will have the technical skills and experience needed to launch an IT career. Programs are 100% no cost to all selected participants through the kind generosity of private donors, foundations, corporations, and government funding. If selected for the program, participants must be prepared and committed to putting in the required time and effort necessary to succeed and trust the process. Once a participant finds employment, they are not expected to make any financial contributions or payments to NPower and will graduate from the program with no debt. 80% of participants graduate the program; 81% get jobs or go on to further education; and 90% of participants obtain one or more IT certifications during the program.

- PCs for People (https://www.pcsforpeople.org/)
  - o PCs for People is a national nonprofit social enterprise working to get low-cost, quality computers and internet into the homes of individuals, families, and nonprofits with low income. By recycling and then refurbishing computers, PCs for People provides a valuable service to businesses, families, and the planet by keeping computers out of landfills and repurposing them to advance digital inclusion.

3.1.2 Missouri Based Resources

The University of Missouri Center for Applied Research and Engagement Systems (CARES), in partnership with the University of Missouri System Broadband Initiative, integrated and contextualized broadband data to assist OBD in planning for and carrying out statewide broadband expansion efforts.

One of the primary results of those efforts was the construction of a publicly available asset inventory of the resources available to assist Missourians with issues of digital connectivity. CARES designed and developed a dynamic data collection tool to support rolling information capture about resources available to assist Missourians with bridging the digital divide. A Qualtrics survey was developed to capture digital assets. The Missouri Digital Asset Map (MoDAM) aims to collect assets and attributes such as digital literacy programs, basic and advanced computer classes, locations of public computers, organizations or programs that distribute hotspots, public Wi-Fi services, libraries, one-on-one technical assistance centers, and

adult/workforce education programs, to not only assist in statewide planning, but to also assist public consumers in connecting to digital resources in and around their communities.

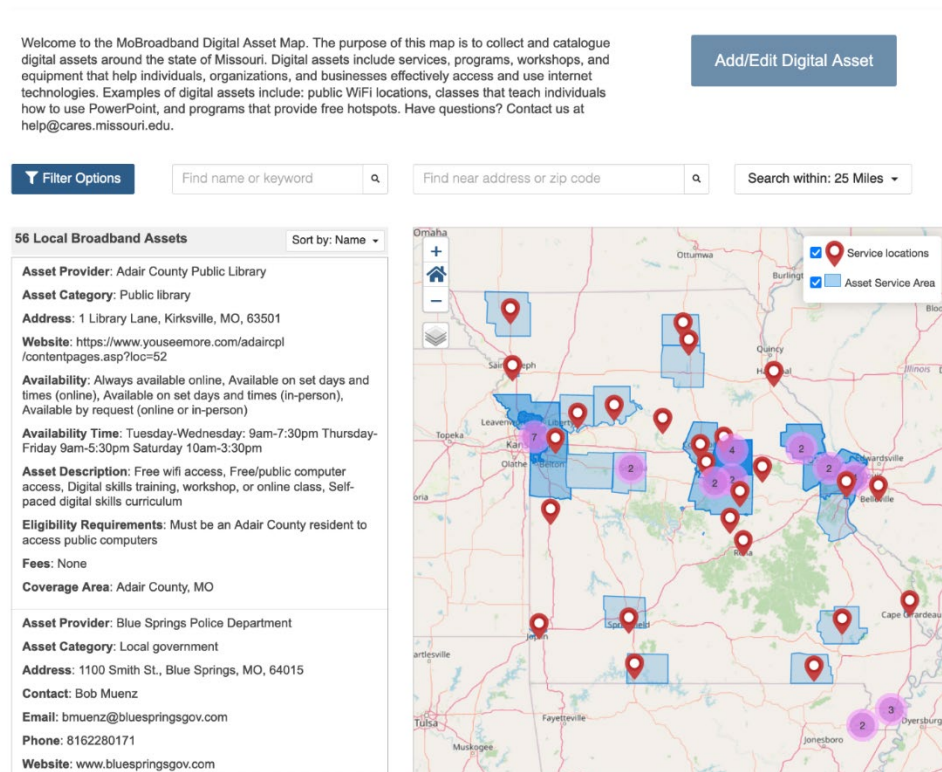CARES developed the following elements to support the production and rollout of the MoDAM.

Figure 1 The Missouri Digital Asset Map. The large blue button at the top right takes visitors to a Qualtrics survey that captures crowdsourced digital asset information and attributes. Visitors can search assets by keyword, location, or within a radius.
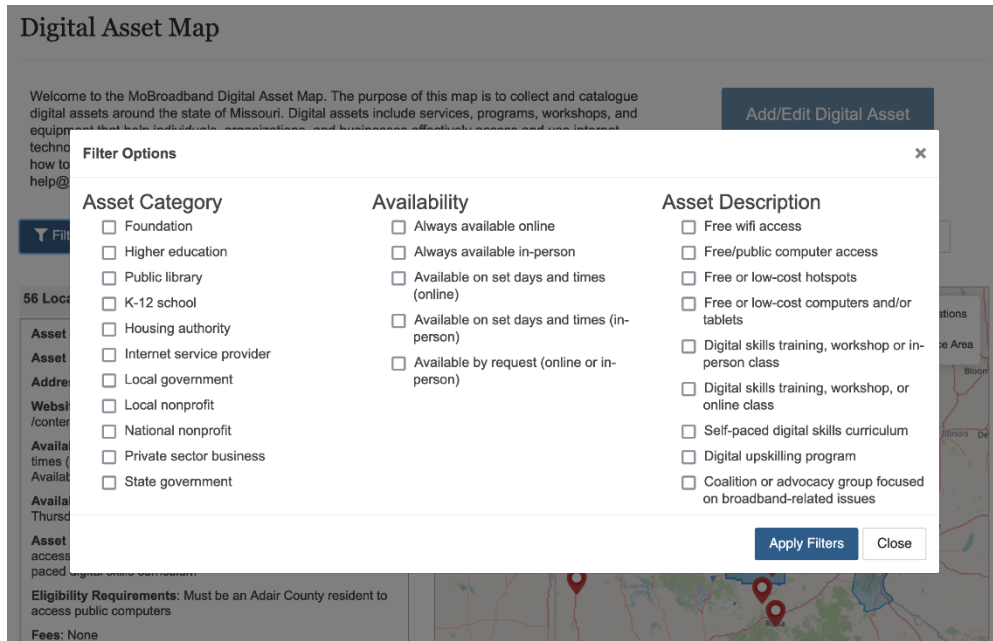
Figure 2 Attributes collected in the Qualtrics survey serve as filters for the MoDAM, allowing visitors to easily view and find needed assets by provider category, asset availability, or asset type.

Data collection for MoDAM is ongoing. After the initial launch of the MoDAM survey, a question aimed at capturing community anchor institutions was added. Targeted messaging and marketing, thus far, has included press releases, e-newsletters, social media, and in-person outreach from University of Missouri Broadband Initiative (mobroadband.org); University of Missouri Extension, OBD, and regional partners in Kansas City and rural Missouri.[10]

The following list is taken directly from the MoDAM tool and reflects those resources available to assist the covered populations in Missouri. The resources included should not be considered exhaustive, nor should the inclusion of specific programs or organizations be interpreted as a formal endorsement by either DED/OBD or the State of Missouri:

- Area Agencies on Aging & Services (https://health.mo.gov/seniors/aaa/)
  - Missouri has ten Area agencies on aging that cover every county in the State. The Area Agencies on Aging are the local experts regarding programs and services in their local areas. Programs and services are designed by the Area Agencies on Aging to meet the needs of the individuals in their planning and service areas. Therefore, the resources and services provided by each agency will vary.

- aSTEAM Village (https://www.asteamvillage.org/)
  - aSTEAM Village is a 501(c)(3) organization that focuses on engaging students, families, and educators in science, technology, engineering, arts and math (STEAM) pathways to facilitate career and education readiness for participation in the 21st century economy of today and tomorrow.

    aSTEAM Village believes that in order to fill the available technology and engineering jobs of today as well as those careers of the future, society must be

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[10] University of Missouri Extension Center for Applied Research and Engagement Systems (CARES), 2023

willing to collaborate and pursue with vigor, education in the areas of science, math and arts which will spur innovation, reverse the stagnation of poverty that has manifested in today's world by encouraging programs that demand problem-solving and critical thinking to deliver solutions that drives innovation.

- Black Family Technology Awareness Association (https://www.bftaa.org/new/aboutus.html)
    - The purpose of the Black Family Technology Awareness Campaign is to empower and fully equip the community with the resources needed to become actively involved with the technology revolution. They intend to assist the process by working with faith-based organizations, corporations with a strong presence in our communities, small businesses, resource centers, such as schools and libraries, and city and state government agencies. By bringing together all these entities to focus on finding solutions, they hope to create models of success that will close the digital divide that threatens to perpetuate educational, financial, and social inequality in America.

- Concordance (https://concordance.org/)
    - The mission of Concordance is to dramatically reduce re-incarceration rates by precisely and rigorously executing their holistic, integrated, evidence-informed re-entry model, focusing equally on process and art.

      Concordance's vision is to be the best there is in understanding justice-involved adults, working in partnership on their journey of healing by offering a community of effective engagement, counseling, and teaching. Through their work, they are developing the leadership traits of strong character, wisdom, and service; are enhancing their faith in God; and are building the skills that help participants to both improve the vitality and safety of their community and to live joyful, abundant, and purposeful lives with their families.

      These services are delivered in phases beginning six months pre-release and continuing one year after release.

- Career and Technical Education (CTE) Delivery System (https://dese.mo.gov/college-career-readiness/career-education)
    - Missouri's Career and Technical Education (CTE) delivery system consists of 518 local education agencies. These local education agencies include 444 comprehensive high school districts (57 with area career centers), one state technical college, 12 community college districts (four with area career centers), seven four-year institutions, and two state agencies. The network of area career centers provides an economical source of occupational-specific skill training which is available to residents within each school's service delivery area.

      Missouri CTE combines academics and occupational skill training to prepare students of all ages. Training programs are offered in Agriculture, Business, Health Sciences, Family and Consumer Sciences, Skilled Technical Sciences, Technology and Engineering, and Marketing and Cooperative Education.

- Department of Elementary & Secondary Education (DESE) (https://dese.mo.gov/)
  - Adult Education and Literacy (AEL)
    - Adult Education and Literacy (AEL) provides free virtual and face-to-face classroom instruction to eligible Missouri citizens in Reading, Language, Mathematics, English Language Competency, Workplace Literacy, Digital Literacy, Civics, and Citizenship. Certified instructors teach all classes. Adult students receive preparation for Missouri's High School Equivalency exam (HiSET®) integrated with career specific workforce training. English learners become literate in the English language while learning the responsibilities of citizenship and workforce preparation.

      AEL programs around the state offer services, free of charge, to anyone who is at least 17 years of age or 16-year-olds who have met Missouri's compulsory school attendance requirements. To be eligible for AEL services, individuals must also have one of the following barriers: basic skills deficiency/low literacy levels based on assessment, lack of high school diploma or equivalency, or learning the English language.

      Funding for AEL programs is determined through a competitive grant process. Local education agencies, non-profit organizations, institutions of higher education, and other eligible groups may apply.

- Footprints (https://www.kcfootprints.org/)
  - KC Footprints was founded in 2001 by Brother Wayne D. White to help people struggling with addiction, especially veterans. Since that time, Footprints has grown, operating two residencies and the original location--the Wayne D. White Recovery Community Center.

  - At the Wayne D. White Recovery Community Center, Footprints offers a computer lab, computer skills workshops, and training to help members of the community build computer and employment skills. As a sponsor site for the Northstar Digital Literacy Assessment, Footprints offers a series of proctored exams that assess proficiency in the following computer skills:
    - Section 1: Introduction to Computers
    - Section 2: Windows 10
    - Section 3: E-mail Basics
    - Section 4: Internet Basics
    - Section 5: Introduction to Social Media
    - Section 6: Microsoft Word Basics
    - Section 7: Microsoft Excel Basics
    - Section 8: Microsoft PowerPoint Basics
    - Section 9: Information Literacy

    Certificates are awarded to those who demonstrate proficiency in the various sections, which can be attached to resumes to aid in efforts to find employment. For those who need increased skills, Footprints offers tutoring and classes.

- Hispanic Economic Development Corporation (https://www.kchedc.org/hedc/programs-services/)
    - The Hispanic Economic Development Corporation (HEDC) is dedicated to improving the lives of Latinos within the greater Kansas City area. HEDC achieves this through business development and economic and community wealth creation initiatives. HEDC is one of the premier organizations in the state with resources dedicated to helping non-native English speakers and English learners overcome the digital divide.

    - HEDC Computer Lab
        - HEDC has developed a curriculum composing a 12-hour course intended to be completed in 3 weeks. The course includes a basic digital literacy program essential to the understanding of a computer and its components. The course is appropriate for individuals who have little or no computer knowledge. The curriculum consists of basic knowledge of Windows 7, Internet usage, Microsoft Word, Microsoft Excel, and Microsoft Publisher. Classes take place 2 times per week in 2-hour increments. New classes take place each month.

- Kansas City Digital Drive (https://www.kcdigitaldrive.org/)
    - KC Digital Drive works on the frontier of inclusion and innovation, deploying an adaptive model that considers the maturity of an idea and the nature of stakeholder engagement. Their model utilizes collaboration to power three strategic pillars that support the overarching purpose of KC Digital Drive and engages community at different phases of idea development.
        - Strategic Pillars
            - Solutions Lab – The development of technology solutions for vexing public problems.
            - Community – Ideas generated through multi-sector collaboration and the inclusion of diverse voices.
            - Project Delivery – Their proven consultancy approach to engage the community and ensure equitable utilization of technology.

    - KC Digital Drive offers/administers the following digital inclusion programs/projects:
        - KC Goes Tech/ MO Goes Tech – A turnkey digital inclusion program that provides funding for an instructor, devices at a $50 copay plus training to provide ACP enrollment assistance and tech support for trainees in Missouri.
        - Digital Equity Planning Support – A service offering leadership, consulting, and planning support to organizations developing plans for broadband connectivity and digital equity.
        - KC Coalition for Digital Inclusion – A community building program designed for practitioners in the digital inclusion space.
        - Cord Cutting Workshop – A content series that empowers people to understand the digital options that can impact their budget and lifestyle.

- Digital Health@Home – A pilot program to cross-train health workers with connected devices, remote monitoring tools, and digital literacy basics to improve health outcomes.
- Internet Access Support Program – A program that provides direct financial assistance to families to lower the cost of internet access.
- Mid-America Outreach Program – A regional campaign designed to help increase awareness of and enrollment in ACP.
- Our Healthy Jackson County – A large scale, community-based partnership addressing health inequities and the digital divide in vulnerable portions of Jackson County.
- KC Digital Inclusion Fund – A community special-interest fund to organizations and programs that focus on digital inclusion to increase participation in digital society for the most underserved/disconnected.

- Leaning Into Digital Opportunity (http://lidokc.org/)
    - Leaning Into Digital Opportunity (LIDO) is a Kansas City based program providing internet services, computer devices and meaningful connectivity to the Kansas City entrepreneur support community. This program is available to income eligible entrepreneurs who are starting or operating a small business anywhere in Missouri, Kansas, Iowa or Nebraska. LIDO is a partnership of PCs for People Kansas City, No-Where Consultants and The Usher Garage LLC.

- Literacy KC (https://literacykc.org/)
    - At Literacy KC, they believe in the multifaceted nature of literacy. Technology usage, including computers, tablets and phones, is imperative in everyday life. Digital Literacy classes provide these skills and are open to the public who are 16+. The classes range in level, including basic, intermediate and advanced topics. Learn how to email, navigate the internet, use applications, master Google Workspace, and more. They also offer specialized classes for online safety, finances, job searches/resumes and healthcare. Literacy KC invites residents to join them for these open-to-the-public, walk-in classes to learn new skills.

- MERS Missouri Goodwill Industries (mersgoodwill.org)
    - The primary focus and success of MERS/Goodwill's employment and rehabilitation programs is in their ability to prepare people for the world of work. To be successful on a job involves having sufficient self-esteem and self-confidence, meeting the challenges of one's personal life and being able to deal with the complexities of interpersonal relationships with co-workers and supervisors, as well as being able to perform the actual work tasks. MERS/Goodwill provides the opportunity to work toward the goals needed to achieve the maximum level of productivity in one's personal life and employment. Services offered include support and assistance with/for:
        - Autism Employment
        - Brain Injury
        - Career Counseling
        - Deaf & Hard of Hearing
        - Intellectual & Developmental Disability

- Education & Literacy
- Employment
- Re-entry Services
- Senior Services
- Skills Training
- Youth

- Missouri Assistive Technology (https://at.mo.gov/)
  - Missouri Assistive Technology (MoAT) is Missouri's federally funded Assistive Technology Act Program. The mission of MoAT is to increase access to and acquisition of assistive technology and related services. Assistive Technology is a generic term that refers to forms of technology that make things possible for individuals with disabilities. Assistive technology helps individuals with disabilities, as well as those who are aging, to overcome barriers that limit or exclude their access to the internet.

    MoAT has a variety of free programs designed to provide individuals with information, resources and methods to acquire devices that level the playing field when it comes to the use of computers and accessing the internet. These programs range from information and assistance on assistive technology to device demonstrations and from device loan to device acquisition programs. Programs of specific note related to increasing internet access for Missourians include the device loan program and the Telecommunications Access Program. Through the device loan program, individuals can borrow items such as adapted keyboards, mouse alternatives, text-to-speech software, screen reading software and screen magnification software that help them independently and fully utilize computers and access internet content. The Telecommunications Access Programs provide both adapted devices (i.e. smartphones, tablets, simplified cell phones, etc.) and assistive devices (adapted keyboards, adapted mice, text-to-speech software, screen reading software, et. al.) to qualified Missourians who are unable to use a traditional phone or computer.

    Furthermore, MoAT works closely with partners around the state to increase digital literacy, digital safety, awareness of assistive technology, and information on the Affordable Connectivity Program. These efforts, while available to all individuals, specifically aim to bring skills and knowledge to individuals with Intellectual and Developmental Disabilities (I/DD) and to individuals with vision impairments.

    Programs and services are overseen by a governor appointed council composed of key state agency representatives and consumers with disabilitiesDirect questions and inquiries to David Baker, director, at 816-655-6707 or at Dbaker@mo-at.org.

- Missouri Association of Councils of Government (https://macog.org/)
  - The Missouri Association of Councils of Government (MACOG) is the statewide organization representing Missouri's 19 regional planning commissions and councils of governments. These professional organizations represent the entire State of Missouri and are committed to enhancing the state's regions. In addition

to general economic development, individual councils of government develop programming to support specific populations unique to each region. Regional councils are engaged in a myriad of activities, including:

- Economic and community development
- Housing initiatives
- Safety and security
- Transportation planning
- Environmental issues
- Quality-of-life issues

o These activities create jobs for Missourians, stimulate private investment and attract millions of dollars in support of public projects. MACOG's organizations serve the state's 114 counties and more than 6.8 million people.

- Missouri Centers for Independent Living (MOCIL) (https://mocil.org/)
  o MOCIL is a statewide association dedicated to protecting and advancing the civil rights of people with disabilities. There are 22 Centers for Independent Living (CILs) in Missouri covering each of Missouri's 114 counties. Centers are community-based, non-residential, not for profit organizations that are community controlled. Funding for CILs comes from a variety of sources including federal, state and/or local governments, grants, and fee for service programs. Federal regulations require that at least 51% of a CIL's board of directors and staff are individuals with disabilities.

- Missouri Community Action Network (Missouri CAN) (https://www.communityaction.org/)
  o In Missouri, there are 19 Community Action Agencies (CAAs) with branches delivering service in every county to help people achieve self-sufficiency. CAA provide the following direct services to low-income Missourians:
    - Economic and Family Security
      - A variety of programs that promote family stability and economic security are available through CAA, including life skills classes like financial management, family support services, domestic violence shelters, foster grandparent programs, and crisis assistance.
    - Education and Job Training
      - From school readiness programs like Head Start, to employment training and workforce development, CAAs offer opportunities that teach children beginning academics and provide adults with labor skills needed to land a stable job.
    - Food and Nutrition
      - The goal is to ensure all Missourians have affordable, adequate & nutritious food available in their communities. Several agencies have a food pantry, sponsor summer food programs or operate WIC (Women, Infants & Children) Nutrition programs.
    - Health
      - All people should have access to adequate, affordable health care. CAAs often sponsor women's health programs, health screenings for seniors and in-home services.

- ▪ Housing and Energy
  - • Housing and energy programs help with everything from utility costs and furnace repairs to rent payments and transitional housing so families can live in safe, healthy, and affordable housing.

- Missouri Developmental Disabilities Council (https://moddcouncil.org/)
  - o The Council's Mission is: "To assist individuals, families, and the community to include all people with developmental disabilities in every aspect of life." The Missouri Developmental Disabilities Council (MODDC) believes that mission will be achieved when people with developmental disabilities:
    - ▪ make informed choices about where they live, work, play, and worship;
    - ▪ receive individual and family supports which are flexible, based on need, and provided in a culturally sensitive manner;
    - ▪ have the opportunity to engage in productive employment and meaningful retirement;
    - ▪ experience continued growth toward their full potential;
    - ▪ live in homes in the community with the availability of individualized supports;
    - ▪ are treated with dignity and respect;
    - ▪ attend neighborhood schools with their peers in regular classrooms, and
    - ▪ are members of powerful advocacy networks made up of individuals and parents and family members.

    MODDC also believes that individuals, parents, and family members are the most powerful forces in forging a responsive and flexible support network for people with developmental disabilities. The Missouri Department of Mental Health, Division of Developmental Disabilities is the administering agency for P.L. 106-402, the federal law which mandates the Missouri Developmental Disabilities Council.

- Missouri Digital Equity (https://digitalequity.missouri.org)
  - o This site is hosted and managed by the Missouri Research and Education Network (MOREnet). The website includes resources to help Missourians become more competent and capable with the higher level uses of the internet. Visitors of the site can also access a map that allows them to locate and engage the services of a digital navigator for in-person instruction.
  - o Organized as a membership consortium in 1991, MOREnet operates as a department within the University of Missouri System. Members consist of community anchor institutions such as K-12 schools, higher education, libraries, government, and nonprofit organizations.
  - o In addition to managing and maintaining a robust and secure fiber network infrastructure, MOREnet provides its members with technical services including cybersecurity, network consulting, technical support, videoconferencing, hosted and managed applications, online resources, and professional development.

- o The resources and information on the website grew from a professional development program offered to members who were serving as a resource for all things technology in their communities.

- Missouri Job Centers (https://jobs.mo.gov/job-centers)
  - o The 39 Missouri Job Centers help job seekers gain employment and upgrade their job skills. They also assist employers with their application & interview process, by utilizing the job matching system. The statewide network of Missouri Job Centers and partner organizations allow them to offer a wide array of vital services to Missouri's job seekers and businesses.

  - o DHEWD provides various workforce development and employment related programs, products, and services for businesses and job seekers. In Missouri, DHEWD serves as the state agency that administers the federal Workforce Innovation and Opportunity Act (WIOA) and Wagner-Peyser funding for job search and other employment related activities.

  - o The Missouri Department of Higher Education and Workforce Development (DHEWD) strives to enhance Missouri's economy by:
    - Helping job seekers gain the skills necessary to find gainful employment with family-sustaining wages.
    - Providing businesses with a skilled, trained workforce to successfully compete in the global economy.

- National Federation of the Blind of Missouri
  - o The National Federation of the Blind of Missouri is a nonprofit organization made up of blind people of all ages, their families and friends. Through strong local chapters and divisions, and well-trained leaders it helps newly blind people adjust to vision loss, and promote the full participation and integration of blind people in our communities. They bring their collective experiences together and volunteer to effect change at the state and national level. National Federation of the Blind of Missouri primarily focuses its efforts on:
    - Assisting blind persons to acquire the skills of independence
    - Helping blind persons to develop confidence in themselves through our many service activities
    - Teaching blind persons the skills of leadership through active participation in conventions, chapter meetings, and civic activities
    - Encouraging blind seniors to continue their active and meaningful lifestyles
    - Preparing blind students for productive tax-paying careers through academic and training scholarships
    - Informing people with diabetes about their options for coping with vision loss
    - Supporting parents and friends of blind children with information about the capabilities of the blind
    - Protecting and promoting the civil rights of blind persons through public education and legislative action

- Advocating for policies that eliminate discrimination and guarantee equal access to educational programs and high quality rehabilitation
- Educating the public through seminars, community activities and our publications

- Public Libraries
  - During the pandemic local public libraries became vital resources in the campaign to ensure Missourians were able to stay connected and informed. Many of the services initiated during the pandemic have continued including digital skill coursework, public Wi-Fi, and device lending. Libraries throughout the state, but especially those in rural and low-income communities, have a vital role to play in the effort to bridge the digital divide. Libraries in Missouri have a great deal of independence and offer services that are tailored to the needs of the citizens they serve. The examples below highlight some of the many services offered by Missouri public libraries.

    - Missouri State Library

      With its partner agency, MOREnet, the Missouri State Library administers the appropriation for the Remote Electronic Access for Libraries (REAL) Program. This membership organization provides internet connectivity, online resources, technical support and digital equity training so that Missouri's public libraries remain centers of excellence for information services to their communities.

      The Missouri State Library also provides grant funding to libraries to enhance their broadband infrastructure and provide digital offerings to their patrons. Examples of projects include, replacing hubs, switches and wireless access points and making hotspots and digital devices, such as Chromebooks, available to the public for checkout.

    - Kansas City Public Library (KCPL)

      Digital inclusion affects almost every aspect of the KCPL's service to the community. From digital communications with constituents via a weekly e-newsletter to social media notifications and emails about Library card account status, digital literacy is vital in getting the best out of one's public library experience. As an anchor institution, it is in the library's best interest to prioritize digital inclusion projects for purposes beyond patron engagement with its services. Communities require access to information and education to overcome barriers to socio-economic equity and healthy lifestyles. KCPL recognizes the importance of digital inclusion and digital literacy and has taken an active role in breaking down barriers, providing digital skills training and assistance, referrals to additional resources, and promoting digital engagement for its patrons.

      KCPL currently offers the following services to Kansas City residents:

      - Strategic Initiatives

- Tech Access provides digital literacy training and support to adult members of the Kansas City community. This includes direct programming to patrons and delivery through community partnerships.
- Excel High School is a fully accredited, online education alternative for students.
- The KC Coalition for Digital Inclusion consists of over 300 members: representative of more than 150 nonprofit agencies, corporations, municipal government departments, churches, and neighborhood associations, plus individual community members from the Kansas City metro region.
- Emergency Connectivity Fund (ECF) Chromebook lending for patrons served through partner agencies. Under the same ECF grant project through which patrons can borrow Chromebooks from any Library location, a portion of these devices have been reserved to check out to patrons engaging in programming at a community partner agency.
- OneNorth Computer Lab and support staff: Computer lab at the Central Library includes staff members available to provide digital literacy assistance and training during Library hours.
- Digital Branch
  - Internet to Go (Hotspot Lending): Library patrons can check out hotspots with unlimited data for up to two weeks with their library cards.
  - Online learning, information, and research: Access to resources like Hoopla, Brainfuse, A to Z database, etc.

- Outreach
  - Mobile Device Labs (CARES Connect Program): Essentially a mobile computer lab that comes with a full-course menu of programming from across the library system. For example, KCPL can provide equipment, curriculum and instructors for job searching and assistance on using computers, doing taxes, and connecting with immigrant services, social services, and government assistance agencies.
  - Community Reference: This Library department collaborates heavily with Strategic Initiatives and individual Library locations to provide specialized expertise on an array of topics, most of which include or require digital literacy. Offers one-on-one appointments with various professionals.

- Youth and Family Engagement

- Digital Media Lab: Offers teen-focused programming on studio recording, robotics, video production, 3D printing, and other engineering areas. Teens can explore engineering and understand the pathways to careers in science, technology, engineering and math (STEM).
- AT&T hotspots lending to schools and partners.

  - Information Services
    - ECF Chromebook lending for patrons and the circulation of computers with internet connection, available for patrons to check out at all KCPL branches for up to 21 days.
    - Open Wi-Fi access with boosted signal for accessibility inside all Library locations and on parking lots.
    - Public access computers at all Library locations, currently available to reserve for one hour.
    - Free printing and remote printing.

- St. Louis County Library

Promoting literacy, fostering a sense of community, and increasing access are the major pillars of St. Louis County Library's strategic plan, and digital equity initiatives help advance each of those goals. By providing not only the technology and connectivity, but also a wide variety of support to help build digital skills and navigate that connectivity, the Library is a major asset in the community's digital equity toolkit. Digital equity and inclusion are crucial for the community as a whole to advance digital and information literacies, strengthen our diverse communities, and increase access to education, workforce development, and personal achievement. St. Louis County Library continues to break down barriers to access to increase equitable opportunities for all.

St. Louis County Library offers the following services and resources for Library District residents, cardholders, and the general community:
- Access to free technology, the internet:
  - Printing (up to $5 per month free), remote printing, and scanning/email services
  - Internet-connected public access computers in all 20 branches
  - Wi-Fi in all branch buildings
  - The Emerson Technology computer lab at Natural Bridge branch which offers extended hours for computer and internet access

- Abundant resources and services to gain digital and technological skills for a variety of needs:
  - Technology classes in person (and now on Zoom) to gain digital skills

- Book a Trainer 1:1 service to help with the library's eMedia services and navigate other computer or mobile device learning needs; provided in-person at a branch or remotely by phone, email, or Zoom
- Book a Librarian 1:1 service to learn to use electronic resources for growing your business, discovering sources for research projects, and performing job searches; provided in-person at a branch or remotely by phone, email, or Zoom
- Book a Genealogist 1:1 service to provide extra assistance with your family history research and help with the Library's world-class genealogy collection; provided in-person at a branch or remotely by phone, email, or Zoom
- Excel Adult High School, an online program where adults earn their high school diplomas
- Online tutoring & learning resources available remotely 24/7 - Brainfuse HelpNow, Gale Courses, LearningExpress Library, LinkedIn Learning, Mango Languages, SkillMill, Transparent Language, Udemy

- Connectivity services resulting from the pandemic:
  - Extended 24/7 WiFi coverage to include branch parking lots, enabling internet connections even when library buildings are closed
  - Distributed 6,100 Chromebooks and 10,000 WiFi hotspots to local students in 2020 as part of the St. Louis County COVID-19 Digital Equity Initiative
  - Offered Chromebook/hotspots bundles for checkout to the general public
  - Distributed 3,000 internet-connected GrandPads to low-income, isolated senior citizens
  - Distributed 1,000 Chromebooks with built-in mobile data for unlimited internet connectivity with FCC Emergency Connectivity Fund support

3.1.3 Missouri Local and Regional Digital Equity Plans

The following Digital Equity Plans have been identified within the State of Missouri. OBD will assign funding priority to programs that comply with local Digital Equity Plans (when they exist). To reflect the importance of digital inclusion activities being locally led, when designing programming for a specific area OBD will defer to the expertise of local plans. OBD would like to note there are no federally recognized Native American tribes in Missouri and thus was unable to locate any plans dedicated to the needs of that population. There is a significant population of Native American from Iowa, Kanas, and Oklahoma who commute to Missouri for work; OBD is committed to meeting the needs of this population when they are present within Missouri.

City of Kansas City Digital Equity Strategic Plan

The City of Kansas has developed an effective ecosystem for the promotion of digital equity which utilizes the abundance of digital equity practitioners and stakeholders within the city. The city's digital equity plan identifies six priorities:

1. Use of the Internet for the Consumer – Broadband Access, Computing Devices and Digital Literacy (Traditional 3-legged Stool of Digital Inclusion)
2. Use of the Internet for the Learner – Education, Lifelong Learning and Distance Learning
3. Use of the Internet for the Digital Citizen – Digital Citizenship and Civic Tech
4. Use of the Internet for Employment – Computer Technical Skills, Workforce Training and Distance Working
5. Use of the Internet for the Entrepreneur – Business Creation, Job Creation, and Home-based Business
6. Collaboration Around Access to the Internet – Sharing and participating in digital equity strategies locally, regionally and nationally

The six priorities directly align with the guiding principles and measurable objectives outlined in the State of Missouri Digital Opportunity Plan. Missourians in and around the City of Kansas City were active participants during OBD's community engagement and served in an advisory role during the compilations of the state's plan. The most significant contribution was in supporting the inclusion of the fourth guiding principles "Collaboration" within the Digital Opportunity Plan.

City of St. Louis Digital Inclusion Action Plan

The City of St. Louis Digital Inclusion Action Plan identifies three goals, and three strategies to support the pursuit of each goal, for the city to accomplish in its pursuit of digital equity:

1. Governance – Empower City government, businesses, and community stakeholders to collaborate in closing the digital divide.
    a. The City establishes a structure and operating model for the data-driven coordination of digital inclusion efforts
    b. The City maximizes external sources of funding to leverage its own funds into digital inclusion
    c. The City collaborated seamlessly with businesses and community stakeholders to spread awareness of new and existing resources, learn iteratively, and drive actions
2. Affordability & Adoption – Improved equitable access to affordable high-speed internet and connected devices.
    a. The City strives to minimize the economic and social barriers to accessing and adopting high-speed internet
    b. The City expands residents access to adequate connected devices needed to learn, work, and perform vital online activities
    c. The City works to ensure community anchor institutions have high-speed fiber connections and public Wi-Fi networks

3. Digital Literacy & Training – Enable residents to experience the long-term benefits of technology
    a. The City removes roadblocks for residents seeking opportunities to work and participate in the digital economy
    b. The City facilitates technical support and digital skills trainings that are widely available and tailored to the needs of different groups
    c. The City enhances resources that residents can rely on for getting online

OBD will seek to support the City of St. Louis in funding the Digital Inclusion Fund in line with the state's commitment to letting locals lead. OBD will also assist the City in population their Digital Equity Asset form via both ongoing exchanges with the City and the funding of new assets in St. Louis.

Kansas City Regional Digital Equity Action Plan

The Kansas City Regional Digital Equity Action Plan is intended to guide the pursuit of digital equity in the Kansas City metropolitan area including accounting for the unique challenges faced by a region that includes major population centers in both Kansas and Missouri. The plans vision was created by the Kansas City Coalition for Digital Inclusion and is as follows, "Every resident will have access to the internet, the equipment needed to use it and the skills needed to take advantage." The plan places a premium on four elements of digital equity:

1. High-speed reliable internet access
2. A computing device (or devices) appropriate for connection to the internet and for tasks needed by the use
3. The knowledge and training to put the capabilities of the internet and computing to effective use
4. Affordability

The plan outlines the resources currently available to the region's residents as well as the extensive public outreach and data gathering conducted during the composition of the plan. The plan also highlights the unique challenges faced by each the covered populations within the region and proposes solutions to remedy those challenges. The solutions proposed are specific to the populations but also sorted into recommendations by which local agency or institution is best suited to the task.

OBD will utilize the recommendations proposed in the plan to tailor specific guidelines for organizations applying for OBD funding to serve the Kansas City area. This will ensure applicants are being selected for their ability to best meet the needs of residents as expressed by those residents. Additionally, OBD encouraged the organizations included in the plan's asset inventory to also list their services on the MO Broadband Asset Map at mobroadband.org. By cross listing the organizations can increase the knowledge of their services for eligible households.

3.2 Missouri 2023 Internet Survey

The covered populations of Missouri have diverse needs and face unique challenges that will require targeted solutions to rectify. OBD recognizes that individual Missourians' lived experiences make them experts on the obstacles their communities face. OBD relied on this expertise to determine the needs of each population. OBD enlisted the support of the University of Missouri to undertake outreach and data gathering. Alan Spell, Assistant Extension Professor with the University of Missouri Extension's Exceed Program conducted a statewide survey, analyzed the results, and provided the following in its report to OBD. Interpretations of the study with regard to its impact on OBD's deployment of digitally inclusive programming is provide in Section 3.6.

3.2.1 Executive Summary

As part of a planning grant, the **2023 Missouri Internet Survey** will assist the state in utilizing forthcoming broadband funding to more effectively bring the benefit of broadband service to all Missourians. To achieve the goal of universal broadband access and digital equity in Missouri, state and local planners need input from citizens and organizations statewide. Coupled with other information-gathering activities facilitated by the grant, this survey provides valuable insights and benchmark information as historic investments in broadband expansion and digital inclusion efforts begin in earnest.

Over 7,500 completed surveys from a random sampling of Missouri households were received during the spring of 2023. The survey sought input from all Missourians and gathered responses from smaller populations whose voices can be underrepresented in surveys and have been disproportionately impacted by digital inequity.

Key survey findings across three major themes include:

3.2.2 Internet Service Access and Adoption

- **Most respondents (88%) used a personal computer** at home. That is important, as these devices are critical to gaining the full benefits of internet adoption.
- **Low-income** and **employment-challenged** households had the lowest levels of personal computer use (78% and 75%, respectively) and the highest levels of smartphone-only use (12% and 9%, respectively) compared to the survey average (6%).
- A high percentage (87%) of respondents paid for home internet service. **Low-income** and **smartphone-only** households were least likely to pay for service (78% and 52%, respectively). Smartphone-only respondents also tend to be lower income. Respondents in low broadband access areas, or **rural low-access** households, were less likely to pay for home internet as service was not available (82%).
- **Only 4% of respondents chose not to purchase available internet services**, an important finding that services are in very high demand.
- The primary reason for not purchasing available services was cost (67%), followed by the internet being too slow or unreliable (32% and 30%, respectively). Slow or unreliable internet was more of an issue for **rural low-access** households, as over half indicated these were contributing factors in not purchasing services.

- Six out of ten respondents had broadband internet speed service (59%). Broadband service – either cable, fiber optic or digital subscriber line (DSL) – was least available to respondents in **rural nonmetro** and **low-access** areas (47% and 33%, respectively).
- **Rural nonmetro** and **low-access** households were most likely to have **satellite subscriptions** (22% and 34%, respectively) compared to other respondents.
- Four out of ten respondents spent $75 or more per month on internet services (44%), but fewer **low-income** households paid this much (36%). **Rural low-access** households had the largest share of respondents paying $75 or more a month (59%), due to the need to purchase more costly satellite subscriptions for internet access.
- Most respondents indicated one or more challenges – such as unreliable service – with their home internet (73%). Fiber optic subscribers noted the fewest challenges (41%) while nine out of ten satellite subscribers reported at least one challenge.

3.2.3 Internet Activities
- **Three out of four** respondents used the internet for at least one work activity (76%). Nearly half of all respondents worked remotely at least one day a week (48%).
- **Non-White** households indicated higher levels of remote work (55%) than **White** households (49%) and were more likely to do online training or job searching activities.
- Most respondents used home internet for email (99%), online shopping (96%) and banking or paying bills (93%).
- Seven out of ten households with internet used it to access government or health services (72%), and just over half used it for education needs (54%).
- **Smartphone-only** respondents were much less likely to use their home internet for work activities or to access government, health or education resources than other respondents.

3.2.4 Internet Assistance and Concerns
- Over half of respondents indicated an interest in at least one area of internet training or assistance (56%). Seven out of ten **low-income**, **Non-White** and **employment-challenged** households were interested in at least one area of training or assistance.
- Help **finding information and resources I can trust** (33%) and **assistance with setting up or using new devices** (28%) were the top two topics of interest.
- Nearly six out of ten respondents would use **online resources** for internet or device assistance (58%). As the top choice, it underscores the need for households to have high-quality internet service and devices they can use to access resources.
- One in four respondents were likely to go to **local government** institutions (i.e., libraries and schools) for assistance. Local government resources were significantly more important to **Non-White** and **employment-challenged** households.
- Eight out of ten respondents indicated the **security of their personal information** as their top concern. Over half of respondents were concerned about **misleading information** (56%).

The **2023 Missouri Internet Survey** clearly shows that demand for internet services is high, with only 4% of respondents not purchasing available services. While rural low-access households typically pay the most for services, they also have the greatest challenges in terms of internet speed and reliability.

Lower-income respondents, including **low-income, smartphone-only** and **employment-challenged** households, have decreased levels of internet access. Those that have service

typically use it less for online activities and are more interested in internet-related training and assistance.

3.3 Introduction

Missouri is poised to make historic investments in broadband infrastructure, making the present moment critical for understanding internet service and digital equity challenges. Access to reliable and affordable broadband service is a universal need and, when coupled with a digitally skilled citizenry, benefits the individual and community alike. Previous research on the benefits of broadband expansion shows that access to broadband is critical, but economic gains are dependent on people, of all backgrounds, adopting and using the technology to better their personal and work lives.[11]

The **2023 Missouri Internet Survey** provides insight into the infrastructure and digital needs of Missourians and will serve as a benchmark for measuring progress as broadband investments are implemented to benefit every corner of the state.

This report summarizes survey results across three major themes: internet service access and adoption, internet activities and internet assistance and concerns. In addition to the report, an appendix provides details regarding the survey questions, one-page summaries for eight **focus populations** (selected specifically as groups disproportionally impacted by digital inequity) and tables noting responses from focus populations and other sub-population groups.

Survey Methodology

The online survey of 23 questions was developed to collect anonymous input from Missouri adults during the spring of 2023. A review of other internet service and digital capital household surveys informed the development of these questions to ensure important data was collected while the survey remained smartphone-friendly to improve outreach to households without home internet service.[12] A Spanish-language version was also made available. The recruitment material – including a postcard and flyers – and survey were approved by the University of Missouri's Institutional Review Board. Appendix A provides the survey questions.

An important aspect of this survey was the need to gather enough representative samples from eight focus populations, designated by the Digital Equity Act, to ensure their feedback could be included in this report. Many of these groups – such as formerly incarcerated individuals – are relatively small populations making it difficult to achieve a high number of random responses. To achieve a sufficient level of responses for these focus populations, several concurrent activities were taken by the University of Missouri and other organizations supporting this effort:

- 80,000 postcards with QR codes were mailed by the University of Missouri to random Missouri households, with oversampling used to increase mailings to zip codes where a higher proportion of focus population households resided.

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[11] A large body of economic literature, including key causal research on rural economic growth due to broadband and other resources noted in two Missouri studies, describes the impacts of broadband expansion that is driven by increased internet access, adoption, and use.
[12] A well-designed digital capital survey, created by the Purdue Center for Regional Development and the Southern Rural Development Center, was shared by Dr. Roberto Gallardo and served as an important resource in question development (see Understanding the Digital Equity Landscape for information on their survey findings).

- Social media outreach from the University of Missouri Extension Program, DED, the Missouri Governor's Office, the Missouri Chamber of Commerce, and other organizations helped tremendously in raising public and media awareness.
- The University of Missouri Extension, regional planning commissions, and several state agencies, notably the Department of Social Services and Corrections, used newsletters and e-mails to raise awareness and to pass along a flyer that could be posted at organizations or stores to increase survey visibility.

This multi-pronged approach was critical to reaching Missourians across the state and resulted in over 8,700 individuals starting the survey with 7,504 completing it (86% completion rate). The large response level provided enough information to report figures for the eight focus populations along with many other sub-populations (see Appendix B for response tables for each question).

Like many random surveys, the population of respondents rarely mirrors the overall population in terms of age, income, race and education levels. Respondents to this survey were generally more high-income, older, white, educated, and rural than the overall population (see Exhibit 1).

While the survey response levels for different sub-populations were sufficient for reporting, and focus population outcomes were necessary, weighting was used to adjust the overall respondent percentages to better reflect a survey average representing Missouri's population

Exhibit 1. Missouri Internet Survey Respondent and Census Distributions

Survey and Census Distributions		
Groups	**Survey**	**Census**
Household Income		
Less than $35,000	18%	28%
$35,000 to under $74,999	31%	31%
$75,000 to under $99,999	19%	13%
$100,000 or more	32%	27%
Respondents (N)*	*6,022*	
Age		
18-34	11%	22%
35-64	59%	38%
65 and over	30%	17%
Respondents (N)*	*7,231*	
Race or Ethnicity		
White, alone	91%	80%
Non-White	9%	20%
Black or African American, alone	4%	11%
Hispanic, Latino, or Spanish origin	2%	4%
Respondents (N)*	*6,930*	
Educational Attainment		
High school degree or less	12%	40%
Some college or AA degree	31%	30%
Bachelor's degree or above	57%	31%
Respondents (N)*	*7,288*	
Area		
Metropolitan Counties	59%	87%
Nonmetropolitan Counties	41%	13%
Respondents (N)*	*7,377*	
Higher Access: > Half of Served Locations with 25/3+ Mbps	86%	95%
Low Access: < Half of Served Locations with 25/3+ Mbps	14%	5%
Respondents (N)*	*7,504*	

*Respondents who did not give an answer are not shown

distribution. Household income weights were used to adjust the survey average which increased the influence of lower-income respondents because their responses typically differed significantly from other populations. Lower-income respondents were also more representative of Missouri's citizens in terms of race and educational attainment.

The survey results in the next section are presented under three major themes:

Internet Service Access and Adoption

The internet services section asked questions regarding the devices and internet services respondents used at home. It included questions on internet access and adoption, the cost and types of home internet services, willingness to pay for devices and services and home internet challenges.

Internet Activities

The internet activities section asked questions about the use of home internet for **work** or **other activities** for those with and without internet services. Comparing the activities of respondents with internet access to the desired uses of respondents without access shows where expectations differ from reality.

Internet Assistance and Concerns

The internet assistance and concerns section asked questions about internet, device or resource training or assistance interest. Another question asks where respondents would likely go for internet or device assistance. A final question asks about concerns respondents have with internet usage.

A noted earlier, the appendix provides additional details regarding the survey questions, one-page summaries for eight **focus populations** (selected specifically as groups disproportionally impacted by digital inequity) and tables noting responses from these focus populations and other sub-population groups.

3.4 Missouri Internet Survey Results

3.4.1 Internet Service Access and Adoption
Internet Device Usage

The first question asked about devices used in the home to understand how respondents access the internet (see Exhibit 2).

Nearly all respondents had a smartphone (96%) and most had either a laptop or desktop computer (88%). Having a personal computer is important for households to take better advantage of the benefits of home internet service.[13] Activities such as reading, file transferring, spreadsheet and word processing, and form completion are more easily accomplished on a personal computer.

Exhibit 2. Which of the following devices are used in your home?

Device	Percent
Smartphone	96%
Personal Computer (laptop/desktop)	88%
Other (smart TV, gaming console)	70%
Tablet	64%
None	0.3%

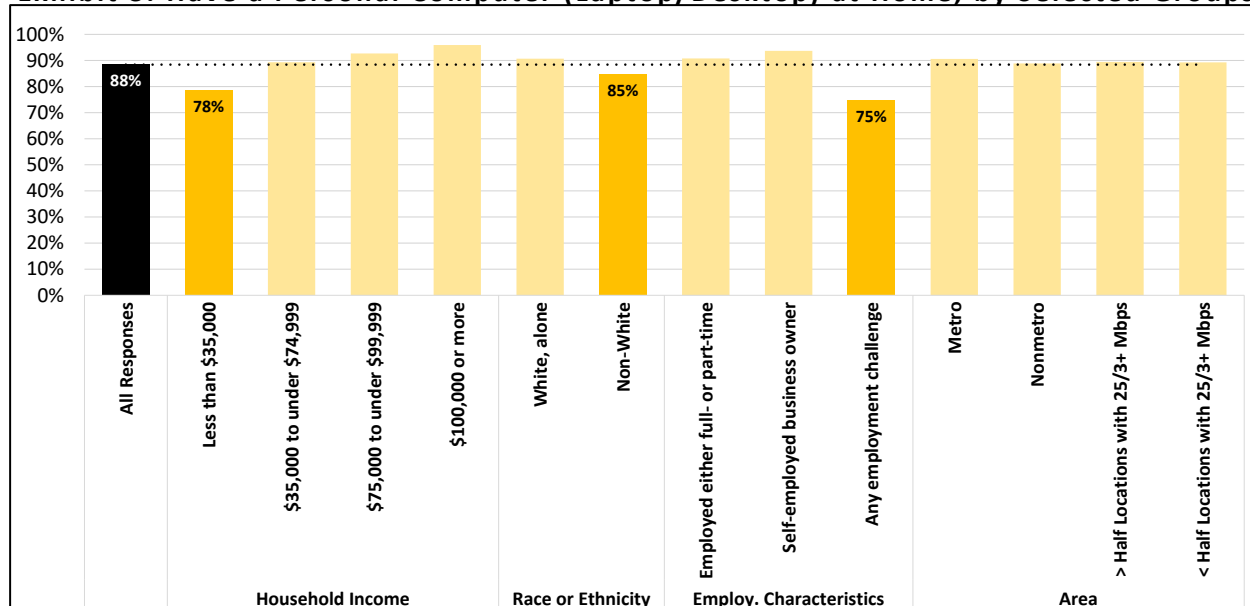N = 8105. Response weighted by household income.

While most respondents had a personal computer, lower-income households were less likely to own such devices (see Exhibit 3). Low-income households – defined here as households with less than $35,000 in income – and those with employment challenges had lower personal computer ownership levels (78% and 75%, respectively). Non-White households were also less likely than the survey average to have a personal computer (85%).

Exhibit 3. Have a Personal Computer (Laptop/Desktop) at Home, by Selected Groups

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Smartphone-only households were defined by respondents with only a smartphone or those with a smartphone and other devices (smart TV, gaming console, etc.). Other devices included as entertainment-only equipment would not provide the beneficial capabilities of a personal computer.

When weighted by household income, only a small portion of respondents were smartphone-only households (6%). Exhibit 4 shows selected demographic characteristics of smartphone-only respondents compared to those who had a personal computer or tablet. Four in ten smartphone-only respondents had a household income below $35,000 (42%), compared to all Missouri households classified as low-income (28%).
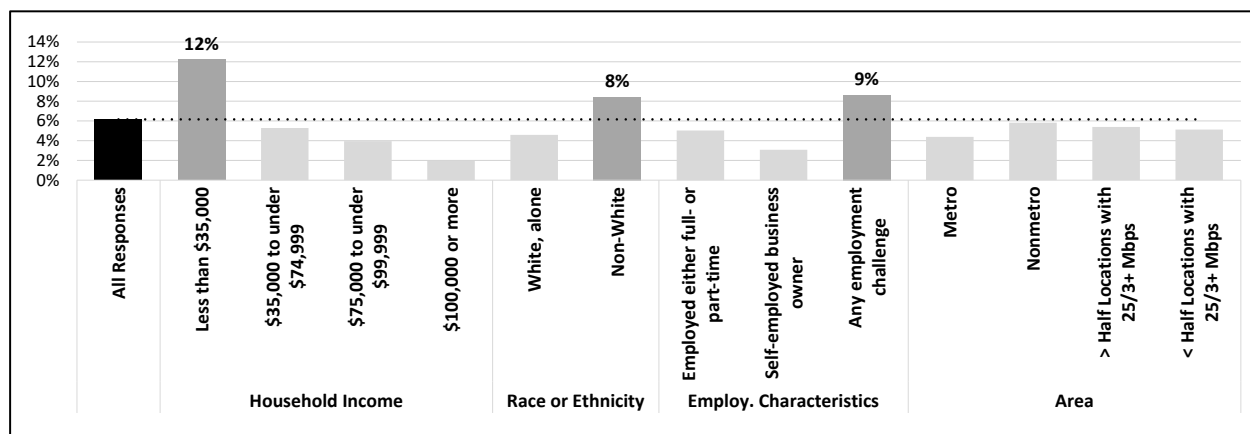
Exhibit 5 shows that households that were either low-income (12%), had an employment challenge

Exhibit 4. Demographic Profiles of Smartphone-Only & Personal Computer/Tablet Respondents

Groups	Smartphone Only	Personal Computers/ Tablets
Respondents	434	7,623
Household Income		
Less than $35,000	42%	17%
$35,000 to under $74,999	31%	31%
$75,000 to under $99,999	15%	20%
$100,000 or more	12%	33%
Age		
18-34	14%	11%
35-64	63%	59%
65 and over	23%	30%
Race or Ethnicity		
White, alone	85%	92%
Non-White	15%	8%
Black or African American, alone	8%	4%
Hispanic, Latino, or Spanish origin	3%	2%
Educational Attainment		
High school degree or less	25%	11%
Some college or AA degree	45%	31%
Bachelor's degree or above	30%	58%
Area		
Metropolitan Counties	52%	59%
Nonmetropolitan Counties	48%	41%
Higher Access: > Half of Served Locations with 25/3+ Mbps	87%	87%
Low Access: < Half of Served Locations with 25/3+ Mbps	13%	13%

Note: Respondents who did not give answers to the questions are not shown

(9%), or were Non-White (8%) had a greater percentage of smartphone-only respondents compared to the survey average (6%).

Exhibit 5. Smartphone-Only Respondents, by Selected Groups

Internet Access and Adoption

Exhibit 6 shows that over eight out of ten respondents paid for a home internet service (87%). Of those who did not pay (13%), nearly one-tenth of respondents either did not have internet service available for purchase or did not know if it was available (9%).

Only 4% of respondents chose not to purchase available services, an important finding that internet services are in very high demand.

The three least likely groups to buy internet services were households that were low-income (78%), lived in rural low-access areas – defined here as zip codes where less than half of served locations have at least 25/3 Mbps service – (82%), or were smartphone-only users (52%). It is interesting that just over half of smartphone-only respondents did purchase internet services at some time in the past 12 months.

Of those who did not purchase internet services in Exhibit 7, some smartphone-only and low-income households chose not to purchase services likely due to their financial situation (18% and 10%, respectively). Lack of availability explains why some smartphone-only and rural low-access households could not purchase services (23% and 13%, respectively).

If internet was available, the primary reason for not purchasing services was due to cost (67%), as shown in Exhibit 8. Over half of rural low-access areas respondents also indicated slow or unreliable internet as a reason not to purchase services.

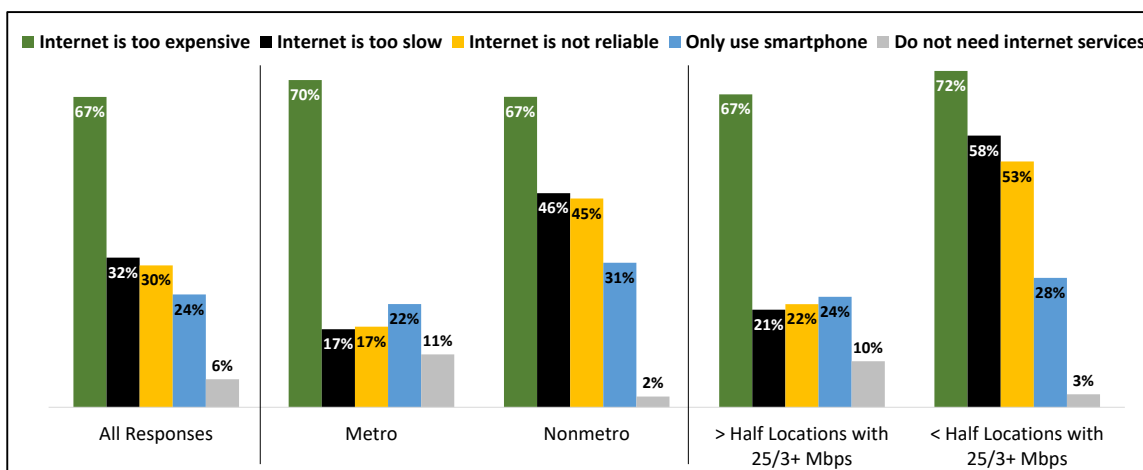### Exhibit 6. Did you pay for a home internet subscription at any time over the past 12? months?

Answer	Percent
Yes	87%
No	13%
Internet service not available	7%
Chose not to purchase	4%
Do not know if available	2%

N = 8089. Response weighted by household income.

Exhibit 7. Groups Least Likely to Have an Internet Subscription

Answer	Households Less than $35,000	< Half Locations with 25/3+ Mbps	Smart-phone Only
Yes	78%	82%	52%
No	22%	18%	48%
Internet service not available	9%	13%	23%
Chose not to purchase	10%	3%	18%
Do not know if available	3%	2%	6%

Exhibit 8. Why did you not purchase home internet services?

■ Internet is too expensive ■ Internet is too slow ■ Internet is not reliable ■ Only use smartphone ■ Do not need internet services

	All Responses	Metro	Nonmetro	> Half Locations with 25/3+ Mbps	< Half Locations with 25/3+ Mbps
Internet is too expensive	67%	70%	67%	67%	72%
Internet is too slow	32%	17%	46%	21%	58%
Internet is not reliable	30%	17%	45%	22%	53%
Only use smartphone	24%	22%	31%	24%	28%
Do not need internet services	6%	11%	2%	10%	3%

Types of Home Internet Service and Cost

Exhibit 9 shows that most respondents with home internet services had a cable (25%) or fiber optic (18%) subscription. However, the most prevalent service varied by location. Rural nonmetro and low-access households were most likely to have a satellite subscription followed by a digital subscriber line (DSL) subscription (22% and 34%, respectively).

Exhibit 9. What type of home internet service did you subscribe to?

Area	Cable	Fiber optic	DSL	Satellite	Cell plan or hotspot	Other Types	Do not know
All Responses	**25%**	**18%**	**16%**	**14%**	**9%**	**8%**	**10%**
Metro	32%	22%	14%	9%	7%	5%	11%
Nonmetro	14%	13%	20%	22%	12%	12%	7%
> Half Locations with 25/3+ Mbps	28%	21%	15%	11%	9%	7%	10%
< Half Locations with 25/3+ Mbps	5%	4%	24%	34%	14%	13%	6%

Broadband internet speeds, at least 25 Mbps download and 3 Mbps upload, are traditionally available in either cable, fiber optic or DSL services – see MU Extension Broadband Technologies Guide for additional details. Based on this definition, most respondents had a broadband subscription (59%). More than two-thirds of metro respondents (68%) had broadband service compared to less than half of rural nonmetro respondents (47%). Only one in three rural low-access households had broadband service (33%).

The survey asked respondents to provide their monthly cost of internet service and to indicate if that cost included bundled services, such as television channels. Most respondents paid between $50 and $75 a month for internet-only services (39%), which excludes bundled service responses (see Exhibit 10).

The monthly internet-only cost varied by different groups based on willingness to pay for higher-speed service levels or the type and availability of services in an area. For example, four out of ten respondents spent $75 or more per month on internet services (44%), but fewer low-income households paid this much (36%). Exhibit 11, below, illuminates these differences.

Exhibit 10. What is your monthly internet cost?

Monthly Cost	Percent
Less than $25	3%
$25 - $49.99	14%
$50 - $74.99	39%
$75 - $99.99	25%
$100 or more	19%

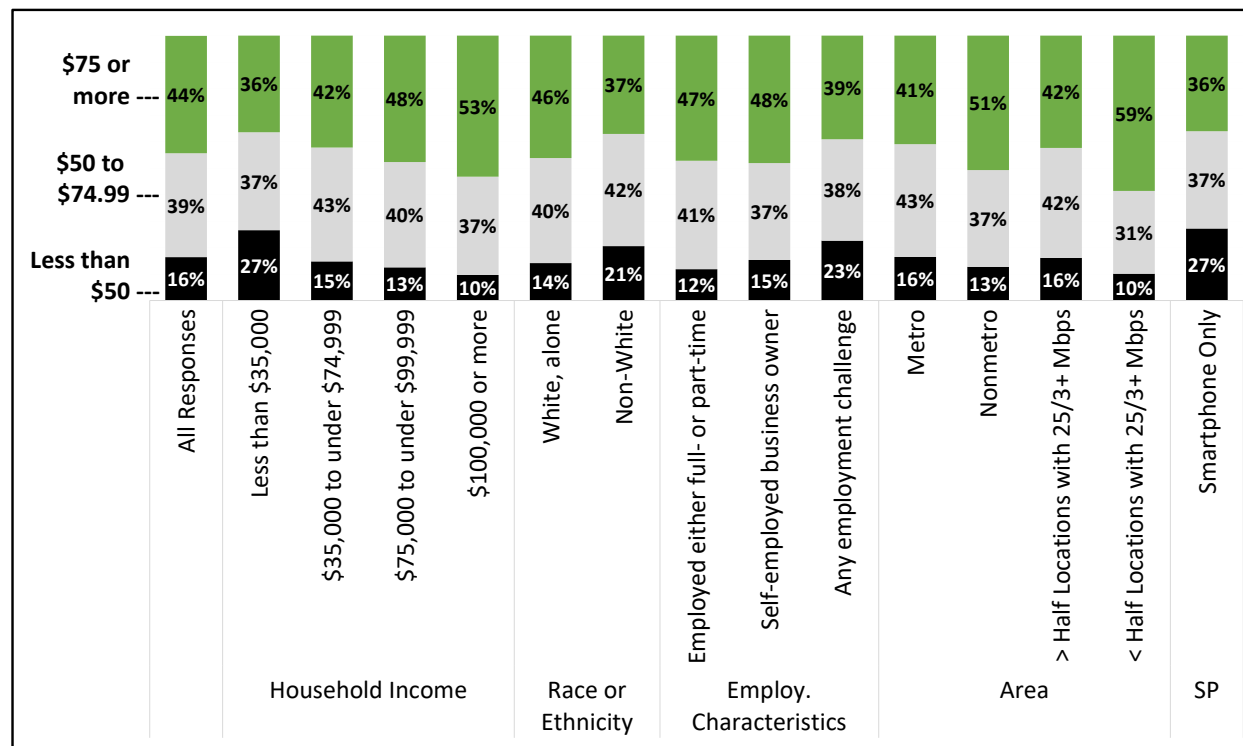N = 4473 respondents with internet-only cost. Response weighted by household income.

Conversely, more than half of households with $100,000 or more in income paid at least $75 a month for internet services (53%). Rural low-access households had the largest share of respondents paying $75 or more a month (59%).

Exhibit 11. Monthly Internet Cost, by Selected Groups

Because respondents provided prices ranges, typical monthly costs were calculated for different types of internet services; this allowed for an easier method to compare relative prices paid. Typical costs were calculated by taking the median value of each range and multiplying it by the number of respondents in that price range to create an average. Using this method, the typical service cost was $71 a month (Exhibit 12). Satellite subscribers paid the highest cost ($87), while DSL users paid the least ($64).

Rural low-access households paid the highest cost ($79) of any population group, which is impacted by the larger share of respondents that purchased satellite services (34%) compared to the survey average (14%). Rural nonmetro households paid more than metro residents ($75 and $70, respectively). Households with $100,000 or more in income paid $76 a month, the second highest of any population group, likely due to their choice of higher-speed internet services.

Conversely, Non-White and low-income households typically paid less ($67 and $65, respectively), likely reflecting their choice for lower internet service speed options.

Exhibit 12. Typical Cost by Service Type

Type of Service	Monthly Cost
All Responses	$71
Satellite	$87
Cable	$73
Fixed wireless antenna	$72
Cellular data plan or hotspot	$68
Fiber optic	$67
DSL	$64

N = 4060 respondents answering for type of service and internet-only cost, not bundled packages. Only types with at least 250 responses are shown.

Internet Service Challenges

Households that paid for home internet services were asked if there were challenges to using that service. Most respondents indicated one or more challenges (73%), with fiber optic subscribers noting the fewest challenges (41%) as shown in Exhibit 13. In contrast, nine out of ten satellite subscribers reported at least one challenge (92%).

Just under half of all respondents indicated that the internet was too expensive (46%). This was the most reported challenge and mirrored the primary reason households chose not to purchase available internet service (see Exhibit 8 on a prior page). However, it is true that less than half of households noted cost as an issue with the exceptions of cable (50%) and satellite subscribers (64%).

Slow or unreliable internet was a challenge for some respondents (42% and 40%, respectively). These challenges varied by service type. Less than one in four fiber optic or cable respondents noted slow internet as a challenge, compared to at least six in ten respondents with other services. Similarly, internet reliability was more challenging for non-fiber optic or cable subscribers.

Exhibit 13. Any challenges to using the home internet?

Challenges	All Responses	Fiber optic	Cable	DSL	Satellite	Cellular plan	Fixed wireless antenna
Reported a challenge	**73%**	**41%**	**65%**	**86%**	**92%**	**85%**	**84%**
Internet is too expensive	46%	30%	50%	39%	64%	45%	38%
Internet is too slow	42%	12%	23%	65%	72%	64%	60%
Internet is not reliable	40%	13%	27%	55%	62%	59%	58%
No challenges	27%	59%	35%	14%	8%	15%	16%

N = 6912 respondents. Challenges do not total 100% as respondents could choose more than one issue.

Willingness to Pay for Internet Services and Devices

As noted earlier, the expense of internet services is a primary challenge or barrier to household adoption. One question asked what respondents, currently without home internet, would be willing to pay for monthly services (see Exhibit 14).

One in twenty respondents indicated they were not willing to pay for any internet service regardless of price (4.7%), but most respondents were willing to pay between $25 and $75 for service (55%).

Typical monthly costs were calculated to more easily compare the

Exhibit 14. What would you be willing to pay for monthly internet that meets your needs?

Cost	All Responses	Metro	Nonmetro	> Half Locations with 25/3+ Mbps	< Half Locations with 25/3+ Mbps
Less than $10	**7.0%**	11.2%	3.9%	9.7%	2.0%
$10 - $25	**14.8%**	18.7%	12.5%	15.2%	18.2%
$25 - $49.99	**27.0%**	25.6%	33.1%	29.4%	26.3%
$50 - $74.99	**27.6%**	21.6%	29.6%	22.4%	35.4%
$75 - $99.99	**12.1%**	7.3%	12.9%	9.9%	12.1%
$100 or more	**6.7%**	5.1%	5.7%	5.2%	5.1%
Not willing to pay	**4.7%**	10.6%	2.2%	8.2%	1.0%

N = 963 respondents.

relative willingness to pay for services. This cost was calculated by taking the median value of

each price range, including respondents not willing to pay any amount ($0), and multiplying it by the number of respondents in that range to create an average. While this analysis creates a more conservative estimate, it aids in the understanding of relative differences in willingness to pay for internet service.

Respondents without internet services were typically willing to pay $48 a month for service. Low-income and smartphone-only households were willing to pay $28 and $32, respectively. Conversely, households with $100,000 or more in income were willing to pay $63 for internet services that met their needs. Metro area households were less willing to pay ($38) compared to nonmetro respondents ($50), perhaps due to higher service cost expectations in rural areas.

One question asked respondents what they were willing to pay to buy or replace a laptop, desktop or tablet to better understand potential ownership barriers given the advantages that devices have for accessing the broader benefits of home internet service.

Exhibit 15. What would you be willing to pay to buy or replace a laptop, desktop, or tablet?

Amount	Percent
Not willing to pay for these devices	6.2%
Less than $100	7.2%
$100 - $249	19.9%
$250 - $499	27.1%
$500 - $749	16.8%
$750 - $999	10.2%
$1,000 or more	12.6%

N = 8066. Response weighted by household income.

Exhibit 15 shows that just over one in four respondents are willing to pay between $250 to $499 for a laptop, desktop or tablet (27%). Only a small portion of respondents were not willing to pay for these devices (6%).

As with other cost questions, a typical amount was calculated to better compare relative differences in the willingness to pay for a device. Respondents were typically willing to pay $460 to buy or replace one of these devices (see Exhibit 16).

Exhibit 16. Typical Amount Willing to Pay to Buy or Replace a Laptop, Desktop, or Tablet, by Selected Groups

Group	Amount
All Responses	**$460**
Top 5 Groups by Highest Willingness to Pay	
Household Income (HH) of $100K or More	$625
Bachelor's degree or above	$551
Self-employed business owner	$548
HH Income of $75K-$99K	$513
Employed either full- or part-time	$506
Top 5 Groups by Lowest Willingness to Pay	
Any Employment Challenge	$347
High school degree or GED	$337
HH with person that has been homeless	$314
Less than $35K HH Income	$300
Smartphone Only	$247

Note: Only groups with at least 200 responses.

Unsurprisingly, groups with a greater willingness to pay (more than $500) are households with higher income levels, educational attainment or employment. Conversely, smartphone-only and low-income households were not willing to pay more than $247 and $300, respectively. A nearly $400 range separates the lowest to highest willingness-to-pay population groups.

3.4.2 Internet Activities

Work Activities of Households with Home Internet

The survey asked respondents with home internet service about their internet use for work activities, especially given the importance of remote work capabilities during and after the pandemic.

Three out of four respondents used the internet for at least one work activity (76%). Around half of all respondents teleconferenced or worked remotely at least one day a week (see Exhibit 17). One out of three survey respondents used the internet to search and apply for a job.

The share of remote work and teleconferencing respondents increased with household income (see Exhibit 18). For example, most households with income above $100,000 worked remotely at times (71%) compared to only one-fourth of low-income households (26%). Teleconferencing generally increased along with remote work activities.

Smartphone-only respondents, who are typically low-income, were the least likely to remote work or teleconference.

Non-White households indicated higher levels of remote work (55%) than White households (49%). On average, rural nonmetro and low-access households were five percentage points less likely to do remote work or teleconference from home.

The prevalence of taking online training courses and searching for jobs also differed across population groups. Not

Exhibit 17. Have you or others in your household used the internet at home for the following work activities in the past 12 months?

Work Activity	Percent
Teleconference (i.e. Zoom)	55%
Work remotely at least one day a week	48%
Online training courses	44%
Search and apply for a job	32%
Running my business	22%
Did none of these work activities	24%

N = 6610. Response weighted by household income.

Exhibit 18. Used Internet for Remote Work or Teleconferencing at Home, by Selected Groups

unexpectedly, online training activities increased with household income, while job searching declined (see Exhibit 19).

With less than one-fourth of respondents doing online training or job searching, smartphone-only households were again the least likely of all population groups to do these work activities.

There was no difference in the prevalence of online training (44%) for rural and nonrural households, but rural nonmetro and low-access households were slightly less likely to search for jobs online.

Non-White households were more likely to do online training (51%) and job searching (44%) than White households (43% and 27%, respectively).

Just over one in five respondents indicated that they used the home internet for running a business, which could include selling online or gig work (22%). Understandably, self-employed business owners were highly likely to run business operations from home (72%), as shown in Exhibit 20.

A higher percentage of households with limited English abilities (33%) or a formerly incarcerated person (30%) were more likely to run a business from home than the survey average. While these percentages had a higher margin of error, between seven to nine points due to fewer responses, it is likely that these populations rely on self-employment more so than others given the challenges they face finding traditional employment.[14]

Exhibit 19. Used Internet for Online Training or Job Searching at Home, by Selected Groups

Exhibit 20. Run a Business using a Home Internet, by Selected Groups

Group	Percent
All Responses	**22%**
Highest Percentage to Run a Business at Home	
Self-employed business owner	72%
HH with a person with limited English*	33%
HH with a formerly incarcerated person*	30%
Lowest Percentage to Run a Business at Home	
65 and over	15%
Black or African American, alone	14%
Smartphone Only	11%

HH is Households. * denotes groups with higher margins of error (7-9%).

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[14] Analysis of formerly incarcerated and immigrant entrepreneurship, along with a larger body of research, support this assumption.

Work Activity Expectations of Households without Home Internet

Households without home internet were asked about work activity expectations once they had this service (see Exhibit 21). Comparing the activities of respondents with internet access to the desired uses of respondents without access shows where expectations can differ from reality.

Most respondents without service anticipated the ability to teleconference, work remotely and search for jobs at comparable percentages to households with internet service. Using the internet for online training was an expectation of over half of respondents without service (51%), yet fewer than half of respondents with service did this work activity (44%).

Households without internet service were much more hopeful that they could run a business from home (38%), compared to households with service (22%). While

Exhibit 21. Work Activity of Households with Internet (Actual) Compared to Expected Activities of Households without Internet

Work Activity	Actual Work Use	Expected Work Use
Teleconference (i.e. Zoom)	55%	50%
Work remotely at least one day a week	48%	52%
Online training courses	44%	51%
Search and apply for a job	32%	32%
Running my business	22%	38%
None of these work activities	24%	21%

expectations to run a business – whether selling things online for extra income or being self-employed – are overly optimistic, it shows an interest that can inform training and benefit local economies as residents bring in extra income from operating businesses from home.

Other Activities of Households with Home Internet

Respondents with home internet were asked about other online activities they use their service for. Nearly all used it for email (99%) and eight of out ten used it for either social networking (83%) or streaming entertainment (79%). See Exhibit 22.

Most respondents used home internet for online shopping (96%) and banking or paying bills (93%). The use of the internet for communication, entertainment or financial activities generally increased with higher household income and educational attainment.

Seven out of ten households with internet used it to access government or health services (72%). Government service use was greatest for households with $100,000 or more in income (81%), as shown in Exhibit 23 on the next page.

Conversely, only half of smartphone-only respondents accessed government services (49%). Two-thirds of rural nonmetro households accessed government or health

Exhibit 22. Have you or others in your household used the internet at home for the following activities in the past 12 months?

Online Activity	Percent
Communications & Entertainment	
Email	99%
Social networking	83%
Streaming entertainment	79%
Online Shopping & Banking	
Online shopping	96%
Banking or paying bills	93%
Other Services	
Government services	72%
Health services	72%
Educational needs	54%
Did none of these activities	0.1%

N = 6839. Response weighted by household income.

services (64% and 67%, respectively), but this was substantially lower than metro households (78% and 76%, respectively).

Just over half of respondents used their home internet for education needs (54%), and usage again increased with household income. Non-White households were 11 percentage points more likely than White households to access educational resources. Rural and nonrural respondents compared similarly with the survey average.

Online Activity Expectations of Households without Home Internet

As with work activities, households without home internet were asked about online activity expectations once they had service (see Exhibit 24).

For social networking, online shopping and banking, actual usage averaged 10 percentage points higher than expected use – a hopeful sign that households are more likely to do these online activities once they have internet access than they may have imagined.

Conversely, respondents without home internet were more optimistic they would access the service for educational needs compared to actual usage by households with internet service (63% and 54%, respectively).

Exhibit 23. Use of Government, Health and Educational Resources, by Selected Groups

Exhibit 24. Online Activity of Households with Internet (Actual) Compared to Expected Activities of Households without Internet

Online Activity	Actual Use	Expected Use
Communications & Entertainment		
Email	99%	93%
Social networking	83%	71%
Streaming entertainment	79%	81%
Online Shopping & Banking		
Online shopping	96%	86%
Banking or paying bills	93%	83%
Other Services		
Government services	72%	73%
Health services	72%	73%
Educational needs	54%	63%
Did none of these activities	0.1%	0.9%

3.4.3 Internet Assistance and Concerns

Training or Assistance Interest

The survey asked households if they were interested in training or assistance with internet-related activities. Over half of respondents indicated an interest in at least one area (56%).

Exhibit 25 shows that finding trusted information and resources was the top interest followed by setting up or using new devices (33% and 28%, respectively).

Responses varied significantly by population groups (see Exhibit 26). Seven out of ten low-income, Non-White and employment-challenged households were interested in at least one area of training or assistance. These groups ranged from 4 to 15 percent points more interested in a topic than the survey average.

Three out of ten Non-White, self-employed business and employment-challenged

Exhibit 25. Which of the following areas would training or assistance interest you or others in your household?

Training or Assistance Topic	Percent
Finding information and resources I trust	33%
Setting up or using new devices	28%
Accessing health care resources online	25%
Accessing education resources online	23%
Using devices/internet to connect with family and friends	21%
Gaining job skills online	21%
Managing and paying bills online	20%
Using the internet to buy things or services	19%
Using devices/internet to start or manage a business	19%
Not interested in any of these topics	44%

N = 7566. Response weighted by household income.

respondents were interested in training or assistance in using devices/internet to start or manage a business. The Appendix has additional population group details.

Exhibit 26. Areas of Training or Assistance Interest, by Selected Groups

Below Avg.   Average   Above Avg.

By Group	Find info. and resources I trust	Set up or use new devices	Access health care resources	Access education resources	Connect with family or friends	Gain job skills	Manage and pay bills	Buy things or services	Start or manage a business	Not interested in these topics
All Responses	33%	28%	25%	23%	21%	21%	20%	19%	19%	44%
By Household Income										
Less than $35,000	46%	37%	37%	33%	32%	30%	30%	28%	23%	29%
$35,000 to under $74,999	33%	30%	24%	23%	22%	21%	20%	20%	19%	42%
$75,000 to under $99,999	26%	25%	20%	18%	17%	18%	17%	17%	16%	48%
$100,000 or more	22%	20%	14%	15%	12%	14%	11%	10%	15%	59%
By Race or Ethnicity										
White, alone	30%	27%	21%	19%	19%	17%	17%	17%	15%	48%
Non-White	42%	35%	33%	35%	29%	36%	28%	28%	29%	30%
Employment Characteristics										
Employed either full- or part-time	25%	20%	19%	19%	16%	21%	16%	14%	17%	53%
Self-employed business owner	31%	28%	22%	24%	19%	21%	19%	18%	31%	43%
Any employment challenge	45%	36%	38%	36%	32%	33%	31%	29%	29%	29%
Area										
Metro	31%	28%	21%	21%	17%	20%	16%	15%	16%	45%
Nonmetro	30%	27%	24%	20%	23%	16%	21%	21%	18%	48%
> Half Locations with 25/3+ Mbps	31%	28%	22%	21%	19%	19%	17%	16%	16%	46%
< Half Locations with 25/3+ Mbps	32%	29%	26%	22%	26%	18%	24%	24%	19%	45%
Devices										
Smartphone Only	39%	37%	30%	28%	32%	26%	26%	28%	18%	34%

Where Respondents Go for Internet or Device Assistance

A survey question asked where the respondent would go, apart from family or friends, for internet or device assistance. Exhibit 27 shows that nearly six out of ten respondents would use online resources first (58%). As the top choice, it underscores the need for households to have high-quality internet service and devices they can use to access resources.

Internet service providers (ISP) were the second choice of respondents (41%), followed by work or coworkers and local government (28% and 27%, respectively).

Responses also varied by population group, although less than for training or assistance interest (see Exhibit 28). Work or coworkers were less important as an assistance resource for low-income or employment-challenged households, likely due to less stable employment. However, local government – which includes libraries and schools – was significantly more important to these groups as an assistance resource.

Exhibit 27. Apart from family or friends, where would you or others in your household be likely to go for internet or device assistance?

Resource	Percent
Online resources (i.e. YouTube)	58%
My internet service provider	41%
My work or coworkers	28%
Local government (i.e. libraries, schools)	27%
Local technology business or retailer	19%
Community organization (i.e. church)	8%
Do not need assistance	16%

N = 7583. Response weighted by household income.

Exhibit 28. Likely to Go for Internet or Device Assistance, by Selected Groups

Below Avg.   Average   Above Avg.

By Group	Online resources	My internet service provider	My work or coworkers	Local government	Local tech. business or retailer	Community organization	Do not need assistance
All Responses	**58%**	**41%**	**28%**	**27%**	**19%**	**8%**	**16%**
By Household Income							
Less than $35,000	56%	42%	17%	35%	18%	12%	13%
$35,000 to under $74,999	58%	41%	30%	30%	18%	8%	16%
$75,000 to under $99,999	58%	41%	32%	22%	19%	7%	17%
$100,000 or more	60%	39%	35%	17%	19%	5%	20%
By Race or Ethnicity							
White, alone	57%	41%	29%	23%	19%	7%	17%
Non-White	56%	43%	27%	43%	19%	14%	13%
Employment Characteristics							
Employed either full- or part-time	57%	39%	41%	23%	18%	6%	18%
Self-employed business owner	58%	41%	24%	18%	25%	6%	18%
Any employment challenge	56%	44%	22%	39%	21%	13%	13%
Area							
Metro	58%	41%	27%	30%	19%	7%	16%
Nonmetro	55%	41%	30%	19%	19%	8%	18%
> Half Locations with 25/3+ Mbps	57%	41%	28%	26%	19%	7%	17%
< Half Locations with 25/3+ Mbps	57%	41%	29%	22%	20%	8%	18%
Devices							
Smartphone Only	38%	28%	27%	40%	12%	12%	18%

For Non-White respondents, the local government tied with their ISP as a second choice for resource assistance (43%). Smartphone-only respondents were the only group not to have online resources as their top choice for assistance, further underscoring the need for personal computers to better access the internet.

Concerns with Internet Usage

A survey question asked what concerns respondents had about internet use. Eight out of ten respondents indicated the security of their personal information as their top concern (see Exhibit 29). Two-thirds of respondents were concerned with getting computer viruses or websites tracking them.

Low-income, Non-White and employment-challenged households were generally more concerned about internet usage than other population groups. Employment-challenged respondents were 7 to 10 percentage points more concerned than the survey average with misleading information and surveillance. Exhibit 30 has additional population group details.

Exhibit 29. Which concerns do you have about internet use?

Concerns	Percent
Security of personal information	80%
Getting viruses on my computer	65%
Websites tracking me/us	64%
Misleading information	56%
Surveillance	44%
Negative influences (i.e. cyberbullying)	30%
No concerns	10%

N = 7614. Response weighted by household income.

Exhibit 30. Concerns about Internet Use, by Selected Groups

Below Avg.   Average   Above Avg.

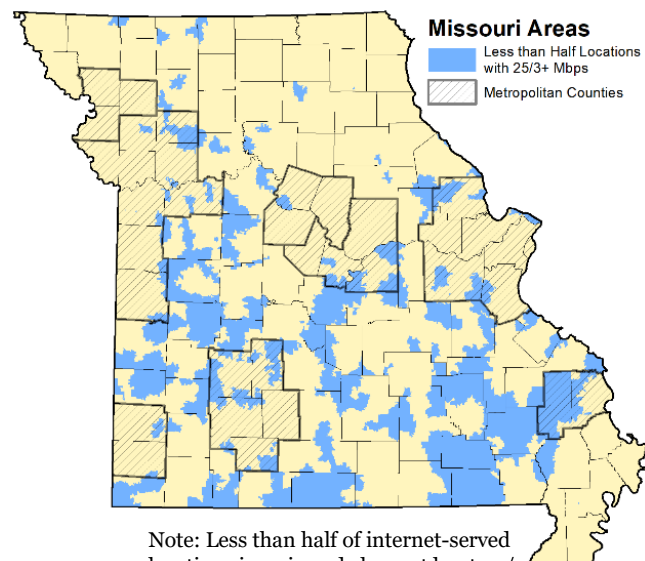| By Resource	Security of personal info.	Getting computer viruses	Websites tracking me/us	Misleading information	Surveillance	Negative influences	No concerns
All Responses	**80%**	**65%**	**64%**	**56%**	**44%**	**30%**	**10%**
By Household Income							
Less than $35,000	81%	69%	66%	60%	49%	30%	9%
$35,000 to under $74,999	82%	69%	67%	56%	44%	29%	9%
$75,000 to under $99,999	79%	64%	64%	54%	41%	30%	9%
$100,000 or more	77%	58%	60%	52%	39%	29%	12%
By Race or Ethnicity							
White, alone	80%	65%	64%	54%	42%	28%	10%
Non-White	83%	71%	68%	60%	53%	35%	8%
Employment Characteristics							
Employed either full- or part-time	77%	60%	62%	51%	42%	30%	12%
Self-employed business owner	78%	69%	64%	54%	44%	29%	11%
Any employment challenge	82%	71%	66%	63%	54%	33%	8%
Area							
Metro	83%	67%	66%	57%	46%	31%	8%
Nonmetro	78%	66%	64%	51%	42%	26%	12%
> Half Locations with 25/3+ Mbps	82%	66%	66%	55%	45%	30%	9%
< Half Locations with 25/3+ Mbps	77%	66%	64%	51%	43%	24%	12%
Devices							
Smartphone Only	77%	60%	58%	50%	44%	30%	13%

3.4.4 Focus Population Summaries

This survey sought the input of all Missouri adults to help guide the state's internet expansion and digital inclusion efforts. In addition, survey outreach was implemented to gather feedback from populations identified in the federal Digital Equity Act as groups that have been disproportionally impacted by digital inequity. Referred to as "**Focus Populations**" in this report, many of these groups are smaller so several steps were taken to increase the response levels for these populations (see survey methodology in the Introduction section for more details).

A summary for each of the eight focus populations is provided on the following pages. The focus populations are listed below, along with how they were identified for this report using respondent background information:

- **Low-Income Households**: defined by respondents with a household income of less than $35,000.
- **Veterans:** defined by respondent households with a current or former U.S. armed forces service member.
- **Aging Populations:** defined by a respondent aged 65 or older.
- **People with Disabilities:** defined by respondent households with a disabled person.
- **Incarcerated Individuals:** defined by respondent households with a person that has been incarcerated at times.
- **People with Language Barriers:** defined by respondent households with a person that had limited English speaking or reading ability.
- **Racial and Ethnic Minorities:** defined by a respondent that identified as Non-White or as having Hispanic, Latino, or Spanish origin. Non-White includes a respondent who is not White, alone but either Black or African American, American Indian or Alaska Native, Asian-American or Asian, Native Hawaiian or Other Pacific Islander, other, or multiracial.

Exhibit C1: Missouri Metro/Nonmetro Areas and Low-Access Zip Codes

Note: Less than half of internet-served locations in a zip code have at least 25/3 Mbps service according to 2022 FCC data.

- **Rural Inhabitants:** defined by respondent households located outside of Missouri's metropolitan areas and therefore residing in nonmetropolitan counties. In addition, respondent households located in low-access zip codes were also considered rural in addition to poorly served; these low-access zip codes are defined as having less than half of internet-served locations with at least 25/3 Mbps service based on 2022 FCC data. See Exhibit C1 highlights these areas in Missouri.

3.4.5 **Low-Income Household Respondent Summary**

Respondents with a household income of less than $35,000 were defined as Low-Income Households in this report. According to the U.S. Census Bureau, there are over 687,000 Missouri households (28% of all households) with income less than $35,000.

Internet Service Access and Adoption

- **Low-Income Households** were less likely to use a personal computer at home (78%) compared to the survey average (88%). Conversely, they had a higher tendency to rely solely on smartphones (12%) as opposed to all respondents (6%).
- Among the respondents in this population, 78% reported paying for home internet service, this was 9 percentage points lower than the survey average (87%).
- Compared to the survey average (4%), more respondents in the population chose not to purchase available internet service (10%).
- Low-Income Households without internet services were typically willing to pay $28 a month, compared to a $48 survey average. Respondents in this population were typically willing to pay $300 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Low-Income Households** were much less likely to *work from home at least 1day a week* (26%) or to use it for *online training* (34%), compared to the survey average (48% and 44%, respectively).
- Conversely, respondents in this focus population were more likely to *search/apply for jobs online* (38%) than the survey average (32%).
- Two out of three respondents used the internet to access *government* or *health services*, and slightly less than half used it for *educational needs* (48%). The use of these three services was between five to seven percentage points lower than the averages for all respondents.

Internet Assistance & Concerns

- On average, **Low-Income Households** were 10 percentage points more likely to have an interest in training or assistance than other survey respondents.
- Nearly half of respondents had an interest in *finding information and resources I trust* (46%) compared to the survey average (33%).
- *Online resources* were where most respondents in this population group would go for internet/device help (56%).
- Respondents were more likely to go to *local government – incl. libraries and schools* for assistance (35%) than other respondents (27%).
- *Personal information security* (81%), *computer viruses* (69%), and *website tracking* (66%) were the top three concerns for this population. Respondents were four to five percentage points more concerned than the average respondent with *misleading information* or *surveillance.*

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.6 Veteran Respondent Summary

Veteran respondents were households with a current or former U.S. armed forces service member. According to the U.S. Census Bureau, over 377,000 veterans live in Missouri and account for 8% of the state's population. Veteran survey respondents were generally higher income and older, with 43% aged 65 or older compared to the overall Missouri population (17%).

Internet Service Access and Adoption

- **Veteran Households** were more likely to use a personal computer at home (93%) compared to the survey average (88%) and less likely to rely solely on smartphones (4%) than the survey average (6%).
- Among the respondents in this population, 89% reported paying for home internet service, slightly more than the survey average (87%). Only 2% chose not to purchase available internet services compared to the 4% average for all respondents.
- Veteran Households without internet services were typically willing to pay $50 a month, compared to a $48 survey average. Respondents in this population were typically willing to pay $494 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Veteran Households** were less likely to *work from home at least 1day a week* (44%) or *search/apply for jobs online* (28%), compared to the survey average (48% and 32%, respectively). This is due to a greater share of retirees in this older respondent population.
- Conversely, respondents in this focus population were slightly more likely to use it for *online training* (46%) than the survey average (44%).
- Three out of four respondents used the internet to access *government* or *health services* (74%), slightly above the survey averages, and half used it for *educational needs* (50%).

Internet Assistance & Concerns

- Excluding work-related help, **Veteran Households** were an average of 2 percentage points more likely to have an interest in training or assistance than other survey respondents.
- *Finding information and resources I trust* was of interest to 38% of veteran respondents compared to the survey average (33%). One in three respondents had an interest in *setting up or using new devices* (32%), compared to other respondents (28%).
- *Online resources* were where most respondents in this population group would go for internet/device help (58%), followed by *my internet service provider* (46%).
- *Personal information security* (84%), *computer viruses* (71%), and *website tracking* (67%) were the top three concerns for this population. Apart from *negative influences*, respondents were approximately four percentage points more concerned than the average respondent with internet usage.

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.7 Aging Population Respondent Summary

Aging populations are defined by a respondent aged 65 or older in this report. According to the U.S. Census Bureau, there are over 1,033,000 Missouri residents (16.8% of the population) that are aged 65 or older, a slightly higher proportion than the U.S. average (16%).

Internet Service Access and Adoption

- **Aging Populations** were slightly more likely to use a personal computer at home (90%) compared to the survey average (88%) and less likely to rely solely on smartphones (4%) than the survey average (6%).
- Among the respondents in this population, 91% reported paying for home internet service compared to the survey average (87%). Only 3% chose not to purchase available internet services compared to the 4% average for all respondents.
- Aging Populations without internet services were typically willing to pay $39 a month, compared to a $48 survey average. Respondents in this population were typically willing to pay $471 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Aging Populations** were much less likely to *work from home at least 1 day a week* (25%) or to use it for *online training* (27%), compared to the survey average (48% and 44%, respectively). This is due to a greater share of retirees in this respondent population.
- Two out of three respondents used the internet for social networking (67%), but this was significantly lower than the survey average (83%). Only 30% used the internet for educational needs, compared to 54% for all respondents.
- Most respondents in this population used the internet to access *government* or *health services* (70% and 73%, respectively).

Internet Assistance & Concerns

- Nearly half of the **Aging Population** respondents were interested in training or assistance with *setting up or using new devices* (46%), the highest of any focus population and well above the survey average (28%).
- Four out of ten respondents had an interest in *finding information and resources I trust* (43%), ten percentage points more than the survey average (33%).
- *Online resources* were where most respondents in this population group would go for internet/device help (57%), followed by *my internet service provider* (49%).
- Respondents were slightly more likely to go to *local government – incl. libraries and schools* for assistance (29%) compared to the survey average (27%).
- *Personal information security* (91%), *computer viruses* (79%), and *website tracking* (72%) were the top three concerns for this population. Apart from *negative influences*, respondents were approximately eight percentage points more concerned than the average respondent with internet usage.

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.8 **Disabled Household Respondent Summary**

This focus population is defined by respondent households with a disabled person. According to the U.S. Census Bureau, there are nearly 867,000 disabled Missourians (14.4% of the population). Disabled Household respondents were typically lower income; compared to all Missouri households classified as low income (28%), more than one-third (37%) of Disabled Households had an income below $35,000.

Internet Service Access and Adoption

- Most **Disabled Households** used a personal computer at home (87%), slightly less than the survey average (88%).
- Like the survey average, a majority reported paying for home internet service (87%) and only a small portion chose not to purchase available internet services (4%).
- Disabled Households without internet services were typically willing to pay $36 a month, compared to a $48 survey average. Respondents in this population were typically willing to pay $414 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Disabled Households** were less likely to *work from home at least 1 day a week* (43%) compared to the survey average (48%).
- Conversely, respondents in this population were more likely to use it for *online training* (46%) and to *search/apply for jobs online* (37%), compared to the survey average (44% and 32%, respectively).
- Four out of five respondents used the internet to access *health services* (80%), well above the survey average (72%). This population was also more likely to access *government services* (76%) than the average respondent (72%).
- More than half of Disabled Households used the internet for *educational needs* (55%), comparable to the survey average (54%).

Internet Assistance & Concerns

- On average, **Disabled Households** were 5 percentage points more likely to have an interest in training or assistance than other survey respondents.
- Nearly four out of ten respondents had an interest in *finding information and resources I trust* (39%), significantly higher than the survey average (33%). Nearly one out of three were interested in *accessing health care resources* (31%), six percentage points higher than the survey average (25%).
- *Online resources* were where most respondents in this population group would go for internet/device help (58%), followed by *my internet service provider* (44%).
- Respondents were more likely to go to *local government – incl. libraries and schools* for assistance (33%) compared to the survey average (27%).
- *Personal information security* (84%), *computer viruses* (72%), and *website tracking* (69%) were the top three concerns for this population. On average, respondents in this population were six percentage points more concerned than the average respondent with internet usage.

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.9 **Formerly Incarcerated Respondent Summary**

This focus population is defined by respondent households with a person that had been incarcerated in prior years. It is difficult to estimate population size, as it includes people who are no longer supervised by corrections officers, but it is conservatively more than 60,000 individuals. Formerly Incarcerated Household respondents were typically lower income; compared to all Missouri households classified as low income (28%), nearly half (48%) of Formerly Incarcerated Households had an income below $35,000.

Internet Service Access and Adoption

- Most **Formerly Incarcerated Households** use a personal computer at home (88%), the same as the survey average (88%).
- Among respondents in this population, fewer reported paying for home internet service (80%) than the survey average (87%).
- Given the lower income levels of this population, it is likely that willingness to pay for internet services and a computer are comparable to **Low-Income Households**. Respondents without internet services were typically willing to pay $28 a month, compared to a $48 survey average. Low-Income Households were typically willing to pay $300 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Formerly Incarcerated Households** were less likely to *work from home at least one day a week* (38%) compared to the survey average (48%).
- Conversely, respondents in this focus population were more likely to *search/apply for jobs online* (56%) than the survey average (32%). Three out of ten respondents used home internet to *run my business* (30%), more than average survey respondents (22%).
- Three out of four respondents used the internet to access *government* or *health services*. Formerly Incarcerated Households were more likely to use it for *educational needs* (62%) compared to the survey average (54%).

Internet Assistance & Concerns

- **Formerly Incarcerated Households** were 20 percentage points more interested in *gaining job skills online* (41%) than average survey respondents (21%).
- These respondents had more interest in *accessing education resources* (41%) and *using devices/internet to start or manage a business* (32%) compared to the survey average (23% and 19%, respectively).
- Respondents were more likely to go to *local government – incl. libraries and schools* for assistance (35%) than other respondents (27%).
- *Personal information security* (78%) was the top concern for this population. Respondents were more concerned with *misleading information* (65%) than the average respondent (56%).

Notes: The Missouri formerly incarcerated population estimate is informed by 2022 Missouri Department of Corrections report on supervised offenders. The margin of error for this population is +/- 7.1 due to smaller response numbers, so only large percentage differences from the survey average are meaningful. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.10 Language Barrier Respondent Summary

Language Barrier households were defined as households with a person that had limited English ability. According to the U.S. Census Bureau, there are over 122,000 people, aged 5 or older, in Missouri that do not speak English "very well." Spanish-speaking individuals represent 43% of that population. Language Barrier Household respondents were slightly more likely to be lower income; 30% of these households had an income below $35,000 compared to all Missouri households classified as low income (28%).

Internet Service Access and Adoption

- Most **Language Barrier Households** use a personal computer at home (86%), slightly less than the survey average (88%).
- Comparable to the survey average, a majority reported paying for home internet service (86%) and only a small portion chose not to purchase available internet services (5%).
- Language Barrier Households were typically willing to pay $397 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Language Barrier Households** were nine to ten percentage points more likely to *teleconference* (65%), do *online training* (53%), *search/apply for jobs online (42%)*, and *run my business* (33%) than average survey respondents.
- Half of the respondents in this focus population *work from home at least 1 day a week* (50%), slightly more than the survey average (48%).
- Seven out of ten Language Barrier Households used the internet to access *government services* (72%). Fewer respondents used it to access health services (62%), especially compared to the survey average (72%).
- Language Barrier Households were twenty-two percentage points more likely to use it for *educational needs* (76%), compared to the survey average (54%).

Internet Assistance & Concerns

- **Language Barrier Households** were eighteen percentage points or more interested in *accessing education resources* (47%), *gaining job skills online* (39%), and *using devices/internet to start or manage a business* (37%) than the average survey respondent (23%, 21%, and 19%, respectively).
- One out of three respondents in this focus population were interested in *accessing health care resources* (34%) compared to the survey average (25%).
- Respondents were more likely to go to *local government – incl. libraries and schools* for assistance (35%) than other respondents (27%).
- *Personal information security* (84%) was the top concern for this population. Respondents were more concerned with *negative influences* (46%) than the average respondent (30%).

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The margin of error for this population is +/-8.4 due to smaller response numbers, so only large percentage differences from the survey average are meaningful. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.11 Non-White Respondent Summary

This focus population of racial and ethnic minorities is defined by respondents that identified as Non-White or of Hispanic, Latino, or Spanish origin. According to the U.S. Census Bureau, there are over 1.2 million Non-White Missourians (20% of the population) and nearly 272,000 persons of Hispanic or related origin. Non-White Household respondents were more likely to be lower income; 32% of these households had an income below $35,000 compared to all Missouri households classified as low income (28%). Due to the smaller number of Hispanic or related respondents, Non-White respondent information is summarized below.

Internet Service Access and Adoption

- **Non-White Households** were a little less likely to use a personal computer at home (85%) compared to the survey average (88%). Conversely, they had a higher tendency to rely solely on smartphones (8%) as opposed to all respondents (6%).
- Among the respondents in this population, 89% reported paying for home internet service, slightly more than the survey average (87%). Comparable to the survey average, only a small portion chose not to purchase available internet services (5%).
- Non-White Households were typically willing to pay $397 to buy/replace a computer, compared to a $460 average.

Internet Activities

- More than half of the **Non-White Households** used the internet to *work from home at least 1 day a week* (55%) and for *online training* (51%), compared to the survey average (48% and 44%, respectively).
- Respondents in this focus population were also more likely to *search/apply for jobs online* (44%) than the survey average (32%).
- Nearly three out of four respondents used the internet to access *government* or *health services* (74% and 73%, respectively). Respondents were nine percentage points more likely to use it for *educational needs* (63%) compared to the survey average (54%).

Internet Assistance & Concerns

- On average, **Non-White Households** were 9 percentage points more likely to have an interest in training or assistance than other survey respondents.
- Non-White Households had significantly more interest in *gaining job skills online* (36%) than other respondents (21%).
- Respondents in this focus population were much more likely to go to *local government – incl. libraries and schools* for assistance (46%) than the survey average (27%).
- *Personal information security* (83%), *computer viruses* (71%), and *website tracking* (68%) were the top three concerns for this population. Respondents were nine percentage points more concerned with *surveillance* (53%) than the average respondent (44%).

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.4.12 Rural Nonmetro Respondent Summary

This focus population is defined by households located in Missouri's nonmetropolitan (nonmetro) counties. In addition, Low-Access Households located in zip codes with low broadband availability were also considered rural along with poorly served; these zip codes had less than half of internet-served locations with 25/3 Mbps or greater service. Nonmetro survey respondents were generally older, with 27% aged 65 or older compared to the overall population (17%).

Internet Service Access and Adoption

- Most **Rural Nonmetro Households** used a personal computer at home (89%), slightly more than the survey average (88%).
- Among Nonmetro Household respondents, 85% reported paying for home internet service compared to the survey average (87%). In Low-Access Households, only 82% paid for service.
- Comparable to the survey average, only a small portion chose not to purchase available internet services (3%).
- Rural Nonmetro Households without internet services were typically willing to pay $50 a month, compared to a $48 survey average. Respondents in this population were typically willing to pay $454 to buy/replace a computer, compared to a $460 average.

Internet Activities

- **Rural Nonmetro Households** were slightly less likely to *work from home at least 1 day a week* (46%) compared to the survey average (48%).
- Conversely, respondents in this population were more likely to use the internet for *running my business* (26%) compared to the survey average (22%).
- Most respondents used the internet to access *health* and *government services* (67% and 64%, respectively), but at levels five to eight percent points lower than the survey averages (72%).
- More than half of Rural Nonmetro Households used the internet for *educational needs* (52%), slightly lower than the survey average (54%).

Internet Assistance & Concerns

- **Rural Nonmetro Household** responses were generally comparable with the survey average, with *finding information and resources I trust* the top interest (30%), a few percentage points below the average respondent (33%). *Gaining job skills online* was of least interest (16%) compared to a survey average (21%), likely due in part to the older age profile of this population group.
- *Online resources* were where most respondents in this population group would go for internet/device help (55%), followed by *my internet service provider* (41%).
- Respondents were eight percentage points less likely to go to *local government – incl. libraries and schools* for assistance (19%) compared to the survey average (27%).
- *Personal information security* (78%), *computer viruses* (66%), and *website tracking* (64%) were the top three concerns for this focus population.

Notes: U.S. Census Bureau, 2021 five-year summary used for population estimates. The typical cost is calculated by taking the middle value of each price range and multiplying it by the number of respondents to create an average.

3.5 *Missouri Digital Inclusion Asset Mapping: Focus Group Study*

As part of the State Digital Equity and Broadband Equity, Access and Planning Grant, the University of Missouri, St. Louis conducted the following focus group study to assist OBD better understand the broadband needs and challenges of Missourians across the state. This work was led by Kiley Bednar, MSW, Ed.D., Co-Director of the Community Innovation and Action Center; Rachel Goldmeier, MSW, LMSW, Outreach Coordinator; Sara Mohamed, MPH, Equity and Engagement Lead; Anna Rhodes, B.A., Research Consultant; and Emily Richardson, Ed.D., Research Consultant.

In order to better use and distribute funding to achieve digital equity in the state of Missouri, it is necessary to understand the barriers Missouri citizens encounter when accessing broadband and how broadband access, or lack thereof, affects their daily lives. These focus groups, along with other data collection methods, allow for a greater understanding of the issues Missourians are facing when it comes to broadband access.

Access to reliable broadband services has increasingly become a necessity, especially as the workforce, student learning environment and face-to-face connection have all evolved in recent years. Previous research has demonstrated the positive impact of reliable broadband access, including a demonstrated growth in income and decrease of unemployment with the adoption of broadband, particularly in rural areas.[15]

Summary of Findings

Internet Service Access

Internet access varies widely across the state of Missouri. Participants across all 20 focus groups shared which providers they use, the type of internet access they have, and the general costs associated with internet connectivity. Additionally, participants, particularly in rural areas of Missouri, as well as participants from low-income households disclosed the various barriers they face in accessing reliable, quality internet services, as highlighted below. ***Internet Providers***

Across the 20 focus groups, participants access a variety of internet providers. The top providers include AT&T, Spectrum, and Starlink; other providers include: CenturyLink, Cricket, DirecTV, Gateway Fiber, HughesNet, Mediacom, Sparklight, USCellular, Wispernet, Google Fiber. Access to internet providers varies by location, across Missouri. For example, in rural areas, participants commented on the lack of choice in internet providers. Often, rural residents shared that they have only one or two internet providers from which to choose.

⇒ *"...there's not a whole lot of options because it's kind of monopolized out in rural areas. The further out you get, the less options you'll have."*- Participant, Zoom, 06.29.23

⇒ *"Yeah. Out in the country, you have no choices."*- Participant, Kennett, 06.22.23, 2

⇒ *"Well, the access to the internet where we are is pretty pathetic, to be honest. We have to go through AT&T. We have no choice. To me, that's monopolizing the internet..."* - Participant, Zoom, 06.26.23

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[15] Brian Whitacre, Roberto Gallardo, and Sharon Strover, "Broadband's Contribution to Economic Growth in Rural Areas: Moving towards a Causal Relationship," *Telecommunications Policy* 38, no. 11 (2014): 1011–23, https://doi.org/10.1016/j.telpol.2014.05.005

On the other hand, several participants, in mostly urban and suburban areas of Missouri, commented that they feel overwhelmed by too many internet provider options, and a lack of support in navigating the selection and setup of internet services.

⇒ *"Having to try to decide on an internet provider is kind of a nightmare. When I started looking, there were four or five different providers that supposedly provided internet service to my address, but I had to make seven or eight phone calls and try to figure out what was best, and I had no idea what language they were speaking because I'm not very technologically minded. And so they'd be like, "Oh, well we give you 5 megs for $150." And I'd be like, "I don't even know what that means." And so then I'd have to call somebody else and be like, "Okay, this is what..."*- Participant, Zoom, 06.09.23

⇒ *"I think, for me, when I first moved to Maryville, a lot of apartments and housing don't provide internet access, so you're kind of on your own to find an internet provider to come out and hook up your service and everything..."*- Participant, Zoom, 06.09.23

Type of Internet

Similarly, across the 20 focus groups, participants mentioned several different types of internet, including 5G, cell phone hotspots, landlines and ethernet cords, wireless fiber optic internet, satellites, and dish/cable services. The options available, and quality of internet service vary by location. In general, participants from more St. Louis, Kansas City and urban and suburban counties have more consistent coverage and connectivity.

⇒ *"I work from home three days a week, two days in the office. And then with the type of mobile coverage we have here, 5G coverage is excellent. So, I'm able to really be connected literally anywhere I go. Along the interstates, if I'm going out-of-state I've got great service, great reliability that way. But just in and around Kansas City, with it being one of the major cities in the state, we've got pretty excellent broadband options and coverage as well."*- Participant, Zoom, 06.20.23

Participants located in rural areas, such as High Ridge, Kennett, Caruthersville and the Bootheel region of Missouri reported fewer internet options and inconsistent connectivity.

⇒ *"I live in a really rural area and so far the only option that I have is satellite." And specifically right now I have HughesNet and it's horrible, but nobody else can provide service to my area."*- Participant, Zoom, 06.28.23

⇒ *"I thought I would mention that I work out in High Ridge, Missouri. And when I'm out there, I'm lucky if I get phone service, much less internet service, you have to turn on a mobile hotspot and position it just right. I thought that that was enlightening as to how there's such a stark drop-off in service, even on a commute that you might experience if you live in the city."*- Participant, Zoom, 06.15.23

Cost of Internet Service

The price of internet service varies widely, based on numerous factors, such as provider, location, type of service, speed, and number of devices. Participants who reported paying $50 or less per month, often have the most basic service. Most participants pay between $50 and $100

per month, with some participants commenting that this price point offers reliable, fast internet, whereas others pay close to $100 per month for limited connectivity.

⇒ *"Well, I think my hotspot at home is, I think with the hotspot itself and the router, I think it's $55, $65 a month, so it's not too ungodly expensive for that."* -Participant, Zoom, 05.16.23

⇒ *"Well, with me, for the phone, I'll pay like $60 a month, but it's unlimited."*- Participant, Zoom, 06.15.23

⇒ *"We're paying $79 a month for 4 gig, which is nothing. We can't run Netflix while my son plays games or anything else like that. Everybody has to stay off the internet while mom's doing her work."*- Participant, Zoom, 06.09.23

About one-third of participants reported paying over $100 per month for internet service.

⇒ *"Ours is over $100/month...it's the only option we have."* -Participant, Zoom, 05.18.23, 2

⇒ *"My internet's 150 a month for the most basic package through Mediacom."*- Participant, Columbia, 05.31.23, 1

⇒ *"So I think right now I'm paying for a hundred gigs and it's 160 bucks a month for internet that is, in all honesty, really crappy. But it's my only option, because if I don't, I don't have cell service at my house, so I can't use the mobile Wi-Fi or the LTE options for internet. Satellite is my only option."*- Participant, Zoom, 06.28.23

Most participants commented that the prices of internet services have increased in recent years, and often the costs vary month-to-month and/or without explanation.

⇒ *"Mine is high, I pay $120 for internet. It was $50 when I first got it, not even two years ago, and it's gone up that much. So when I move, I plan on getting something else"*- Participant, Columbia, 05.31.23, 2

⇒ *"Oh, I was just going to say rising costs has been an issue, particularly for me in college, when I was struggling a lot more financially. You start off at one price and then six months later, it's twice as much and that's not an affordable amount of money. That's still an issue now for us, not necessarily that the cost is a huge barrier, but just that you start off at one price and you're like, "Okay, I can fit this into my budget. I can afford this every month," and then six months later it's twice as much and then six months after that, it's another third as much and it just keeps going up, but the service does not improve. It's not any better. It's not like they've added any value. They're just charging you more money because they can, and it's very challenging to try to get them to lower the bill and go back to the original price and that cost just becomes higher and higher for no good reason."*- Participant, Zoom, 06.07.23

Barriers to Access

Participants with more limited access to internet services, including providers and type of internet, highlight several barriers, including cost, lack of cell service to support internet access, difficulties interacting with internet companies to set up internet service.

Cost/Price:

Participants mentioned that due to the price of internet service, they either had to go without internet at various times, or compromise on speed and quality due to cost.

⇒ *"Cost is generally really prohibitive. I mean I work at the library so I help people every day that can't afford to have Wi-Fi [inaudible], and you can have a certain amount of cellular data on your phone but then it gets super expensive after a point."*- Participant, Columbia, 05.31.23, 1

⇒ *"I had to turn off my internet during COVID. For 3 months we were at home during COVID without internet because it was too expensive for us during that time. My husband was without a job for a bit and it made it hard for us financially."* -Participant, Zoom, 07.06.23, Spanish

⇒ *"Financially, yes. I opted for the slowest internet because of cost. Sometimes it freezes, but I can't get faster internet because it's too expensive...."* -Participant, Zoom, 07.06.23, Spanish

Internet costs are a greater barrier for low-income communities and families, as many participants shared.

⇒ *"Yeah. So I'm actually a children's minister, and I work with a lot of kids that are low-income. I'd say the majority of the kids we have that come in that are low-income don't have Wi-Fi at home, or something that they can use for watching Netflix, doing whatever. They just have a phone. And oftentimes, when they run out of minutes or whatever they have on their phone, that shuts them down and they have nothing. So we have quite a bit of that, actually, in Lamar. "*- Participant, Zoom, 06.20.23

Furthermore, several participants, particularly in rural areas where there are limited internet providers, mentioned that they feel they are locked into a set price to access the internet, whether or not the service is high-quality, as it's their only option for internet service.

⇒ *"AT&T is the only option here. And because it's the only option, there's, of course, no competitive pricing there. What you see is what you get, and that varies between where you are in town."*- Participant, Zoom, 06.20.23

⇒ *"What I have ran into is in a lot of local little small towns, the internet access is controlled by one company and that company will charge you 80 to $100 for 100 Meg and there are no lower tiers for it, and people can't afford it when it gets up into that range of cost."*- Participant, Zoom, 06.29.23

⇒ *"You just feel like you're completely at the mercy and even though some of these places aren't really monopolies, it feels like it if you're in a rural area. You just feel totally, like you don't have another option, so you have to pretty much deal with whatever they dish out..."*- Participant, Zoom, 06.28.23

Lack of Cell Service:

Many participants, especially in more rural areas of Missouri, mentioned that their lack of reliable cell service prevented them from accessing the internet, and/or interfered with the reliability and consistency of internet service.

⇒ *"Cell service to use mobile data is horrible. I have one bar of cell service at my house, so really, 90% of the time, the only time I can make a phone call is if I do Wi-Fi calling.*

And even then you got to stand in a specific spot for it to even connect. I would love to be able to use it for my job and work from home, but I can't even do that. I have to go in to town and go to my grandmother's and use her internet to do my job."- Participant, Zoom, 06.28.23

⇒ *"I think a lot of it depends on where we live, the location, and the lay of the land basically. I know we've often had, where I live is kind of in what we used to call the swampy part of Missouri, but it used to be underwater hundreds and hundreds of years ago. We're kind of in the low part of the county and lots of trees and rivers and lots of things to block signals. Even signals of cell phones don't work as well when you get out of a certain area. I also have had to drive a distance to get a signal to get out at some point. Yeah, that's just my thought on that."*- Participant, Zoom, 05.16.23

Difficulties Interacting with Internet Companies:

Participants mentioned that interacting with internet providers is difficult and impacts their ability to set up affordable internet service at home. Consequently, many participants shared that they feel that they pay more for internet service than they should have to, because reaching internet service technicians is time-consuming, and interacting with providers is both frustrating and complicated.

⇒ *"And even though I'm supposed to have the reduced cost, I've never actually gotten that. And so every month, I've continued to pay $45 to $50 a month for the internet, [which] I'm supposed to be paying $10 for. And then I have to call them and spend hours on the phone trying to get them to actually reduce it. And at that point, for the past six months, I've just decided to pay the $50 a month for the internet rather than try to fight to get the reduced cost."*- Participant, Zoom, 06.09.23

⇒ *"Like one of the other participants, I was on CenturyLink and one of the reasons I was on that was because it was one of the few providers in my area and they also offered discounts for individuals that had disabilities or things like that pre-pandemic. But I had numerous problems with them, over billing, overcharging. I filed formal complaints through my state representative and my federal representative's office because they would over bill me, maybe as much as $200 and then come back and would credit me like $50 and then act like they were doing me a favor to even do that."*- Participant, Zoom, 06.28.23

⇒ *"Also, that sometimes the people that do come out, they speak in technical jargon, they don't keep it simple enough for you to really to understand what's going on."* - Participant, Zoom, 06.29.23

Alternatives to Home Internet/Places to Access the Internet

Due to a variety of connectivity disruptions, participants, at times, must access internet services outside of the home. As one participant from Kennett commented, "to me it's the school of hard knocks. You just have to learn. I found out that [to get] better access, you have to go to a different area. I've learned the hard way. It's a different area you have to go, and the reception is crystal clear. And then some places, dead zone" (Participant, Kennett, 06.22.23, 1).

Participants may use their cell phones or hotspots through their cell phones to connect to the internet. For example, *"I'd sit in my truck and do my work while my daughter would try to do her schoolwork. Now, like I said, we're using a hotspot right here through our UScellular and sometimes it works, sometimes it doesn't. It's 5G, so sometimes when that wasn't working we have to go into the system and change it to 4G" (*Participant, Zoom, 05.16, 23).

Many other participants travel to family or friends' homes to connect to the internet when their service is interrupted or inconsistent.

> **"You can go to Walmart, sit out in the parking lot on their Wi-Fi and do what you need to do. I've done my unemployment out there when I can't get it at home. I go to Walmart parking lot on Sunday morning, and file my unemployment claim."**
>
> **-Participant, Kennett, 06.22.23, 2**

⇒ *"I also like [other participant], have a teenager at home that during the pandemic we had no internet access for him to do school classes. He actually had to stay with my sister who lives in another town that has reliable internet service in order for him to complete his schoolwork. "*- Participant, Zoom, 05.16.23

⇒ *"So for me, I have one day a week that I get to work from home, so I have to drive 30 minutes into town to my grandmother's house to use her internet to be able to work from home that day. I also have to, I'm still taking college classes, so I have to go to her house to take my online college classes or I have to go into town to my dad's store and steal his Wi-Fi to be able to do anything."*- Participant, Zoom, 06.28.23

⇒ *"For a while, when I first moved into this apartment, the internet was super bad, so I wasn't able to do a lot of my homework here in my apartment. So that would require me to either go somewhere in town or go to one of my friend's house and bounce off their Wi-Fi for a while."*-Participant, Zoom, 06.09.23

Other participants rely heavily on using internet services at their school or place of work, although they expressed their preference for better internet connectivity at home.

⇒ *"I actually went back to college a few years ago and accessed the library on campus. Also, my sister has reliable internet, so I spend some time over there utilizing hers and sometimes after work I may use the office as well. There are other places and other resources that you can go to, but nothing beats being at home." *-Participant, Zoom, 05.16.23

⇒ *" I do use my office a lot at my company's work to use the internet there a lot. Last year I actually ran for Congress and trying to do Zoom meetings just like this was very difficult." *-Participant, Zoom, 05.16.23

Dozens of participants shared that they go to commercial establishments, like McDonald's and Starbucks to access wireless internet.

⇒ *"Now, my reception is real good at Walmart, the parking lot, at Walmart. I'm really... When I'm going to deal with a real important phone call, I go to Walmart, get right there in the middle there, and I'm good."*- Participant, Kennett, 06.22.23, 1

⇒ *"Similar to her brother, I would write a paper at home on Microsoft Word and then I would drive to Starbucks or Burger King, even, the closest place and sit in the parking lot to submit it, because it was due at midnight. I would write it at home and then go drive and just submit it. There was one time when their Wi-Fi wasn't working, so I had*

the three minutes before midnight. Obviously I shouldn't have procrastinated, but I had the three minutes before midnight to go find somewhere else that had Wi-Fi to sit in the parking lot and submit my paper."- Participant, Zoom, 06.07.23

⇒ *"Again, I haven't really experienced this myself, but my brother, in order to access internet, he would walk to McDonald's, because they have free Wi-Fi, and he would do his schoolwork, his college work at McDonald's. He didn't really spend money because he walked, but there were nights where they had to kick him out of McDonald's, because he was trying to do his homework."-* Participant, Zoom, 06.07.23

Across all focus groups, participants discussed using a public place, such as a library, for internet access. At least two participants separately joined the focus group discussion from the library, due to connectivity issues. *"I'm actually at our public library, the only broadband spot in the county besides one or two businesses"* (Participant, Zoom, 05.18.23, 2).

⇒ *" ...if your kids are in school and you're concerned, your internet goes down and you're concerned about your kids getting your homework done then you go to the public library. Even at that, it's not free for everyone ..."-* Participant, Zoom, 06.29.23

Several participants praised libraries as a useful resource for free internet services, as well as related technology support.

⇒ *"I think the library is a good thing. Like she said, the library, because lot of people go to the library that don't have internet at home. They go to the library to download, or do what they have to do at the library."-* Participant, Kennett, 06.22.23, 1

⇒ *"I know a lot of people are scared to talk to librarians, but as for the head librarian, that's their job to help you with any of that stuff you need. If you need to print out your resume, you need help with your phone, the computer, that's their job to help and show you. They will even take you into those side rooms that they have and dedicate some time. You can check out a librarian. I know you probably got to look at how to do it on a computer. But go to the librarian, they will show you how to check out a room so you can just focus on whatever you need with them and they will walk you step by step. I love the library."-* Participant, St. Louis, 05.23.23

Nevertheless, as helpful as the library may be, participants expressed the inconvenience of having to travel to and accommodate the schedule at libraries.

⇒ *"One of the things that I've experienced when you need a hotspot... Or I'm sorry, when you need wifi, is the timing. Having to work out the timing of doing your assignments or doing your life has to go within the timeframe of when that business is open. When you throw in the demands of trying to go to work, or you've got these odds and ends, there's a lot of... I'm a homebody and I like to have my papers spread out, and so it's like you have to pick up everything and take it to the place, and then ensure that you have privacy. I think privacy is the biggest drawback to working in a public area. Among connectivity, because they tend to run slower. But just trying to ensure that you're within the timeframe, it really does cut down the hours that you can work on certain projects or work."-* Participant, Zoom, 05.18.23, 2

⇒ *"As a teacher, I know so many kids that would have an assignment to do in a certain time and then have to go to the library after school and do their research. Now, the public library closes at four o'clock."-* Participant, Eminence, 06.14.23

Aid Programs that Make Internet More Affordable

Several participants across the different focus groups mentioned that they receive aid and assistance to help with access and/or the cost of internet services at home. One participant (06.28 Zoom FG) shared that they received a $50 credit from the Emergency Broadband Benefit. Another opportunity frequently mentioned is the Affordable Connectivity Program, another Federal Communications Commission (FCC) benefit program that works to ensure that households can afford the broadband they need for work, school, healthcare, and other services. The ACP replaced the EBB on December 31, 2021. The benefit provides a discount of up to $30 per month toward internet service for eligible households and is limited to one monthly service. Those participants who were aware of the benefit offered information to other participants. For example,

⇒ *"The Affordable Connectivity Program, I think I was alerted to it by my cell phone company. They give you $30 toward your internet or phone so that you can stay connected. I think it's especially probably something that's occurred after COVID to make sure that people have those connections and those resources and that support. They give you a $30 credit to keep you connected with people. I'm sure it's part of a mental health initiative and things like that, after COVID, especially."*- Participant, Zoom, 06.26.23

⇒ *"I have Wi-Fi at my house and of course I use it on my phone, but I'm a part of the ACP program for my household to get, it's a $30 a month thing for the internet for our house so the kids can all go to school and I have four kids so they have to get on the internet quite a bit and also they just like to play games and stuff like that."*- Participant, Zoom, 05.31.23, 1

Participants who benefit from the Affordable Connectivity Program shared that they learned about the benefit from their cell phone or internet provider.

⇒ *"No. It went from $30, to $10, to free now. No, I mean they don't just inform you. But there was an event that went on May 17th where Cricket came up to give out new phones to people that were eligible and to help them find out how to connect to the Affordable Connectivity Program. So I wouldn't say that they do it regularly, but it so happens that that may be a way that a person would hear about it."*- Participant, St. Louis, 05.23.23

However, many participants were unaware of how to apply for the benefit altogether, as one commented, *"I've heard of them, but I wouldn't even know where to even go to find anything like that" (*Participant, Zoom, 06.28.23).

Internet Activities and Uses

During focus group discussions, participants were asked to identify the ways in which they utilize the internet. Roughly 10 themes emerged from the 20 focus groups across Missouri, as highlighted below, in order of frequency.

Work

Most frequently, across all 20 focus groups, participants use the internet to carry out work-related tasks, such as meetings, as well as to apply for jobs. Rural-residing participants who work in the agriculture industry likewise rely on internet services to conduct their work.

⇒ *"In Adrian, we have high speed, but it's slower. We do a lot of things. Our water plant is connected, so we're able to monitor the equipment in our water plant through our internet service. Most of the work that we do in the office, we access the internet pretty regularly."* - Participant, Zoom, 06.09.23

⇒ *"...And a lot of times I do just freelance work, helping people with digital marketing. So if I can't connect to my clients then... Yeah, I kind of need my internet. Even though I have unlimited on my phone, it kind of sucks holding a phone, trying to be on a Zoom meeting. So I like to be on my laptop and I need internet on it."*- Participant, St. Louis, 05.23.23

Many participants across Missouri noted that internet access is essential to seek employment in today's job market.

⇒ *"Yeah. I've been looking for a job. There's no paper applications anymore. Everything, you either scan a QR code, go to the website, Indeed.com, Monster, whatever. Without the internet, it would drastically slow down the hiring processes around the board, make things a lot more difficult. "*- Participant, Zoom, 05.31.23, 2

⇒ *"And also, I used to be a recruiter in a similar role, but it's a lot of the people that I used to work with to help them find jobs were on, we were on public transportation lines and couldn't necessarily make it to the office, but we could do 90% of the work that we needed to do to get them employment, get them back on their feet, just over the phone. So I think that's huge."*- Participant, Zoom, 06.15.23

⇒ *"Yes, definitely. It would open up more opportunities for me if I could afford the better speeds. I've applied for jobs where you have to give speed test results, things like that, but because of my situation, I can't really afford the initial layout. Like what she's talking about, to do some of the other options. So it keeps me in that, I don't know, that spot where it's, well, to actually even apply, you have to be able to produce the speed test. It's not even after employment. So it's a barrier, I think."* -Participant, Zoom, 06.28.23

Furthermore, many participants commented that internet access permits them to take on careers they may not have otherwise been able to access, because of the internet. For instance, some participants work remotely for out-of-state employers, which allows them to live in Missouri, near family and with a more affordable cost of living, and/or even consider starting their own small businesses.

⇒ *"Yeah. I work remotely. My job is out of state, so if I did not have reliable access to internet, I just would not have this job. I would not be able to do it because where the company is based out of, I could not afford to live there. It's based out of Los Angeles,*

California. So they don't pay me enough to live there, so that would suck." -Participant, Zoom, 06.15.23

⇒ *"On a personal side, I run a side business and so I use the internet at home to conduct meetings, basically all across the country. I have a financial services business where we do investments, insurance, mortgages, and I have clients all across the country. I could not do that without a reliable internet service. And so for me, it lets me reach customers that I would have never been able to reach before. And so both my day job and the things that I do on the side, highly reliant on the internet service."- Participant, Zoom, 06.09.23*

School

As highlighted throughout this report, participants rely on internet access to engage in online learning, both during and after the COVID-19 pandemic. Participants in all 20 focus groups shared that they use the internet for educational purposes. Post-secondary education programs often have an online component. Additionally, throughout Missouri, elementary and secondary education requires internet connectivity for homework, hybrid learning, and ongoing coursework.

⇒ *"That's why some kids now they got the MacBooks here in school, and if they don't have access to internet they can't do their homework or anything like that. And that's a big thing that the kids got to have."- Participant, Kennett, 06.22.23, 4*

⇒ *"It gives you so many opportunities too. I have an unpaid internship, but my boss is a fashion designer and also disabled. I met her through Instagram and there's no way I would've found someone who is accommodating and doesn't want me to pay them much, she lives in Washington, there's no way... It's just like the internet did that." -Participant, Zoom, 05.31.23, 2*

⇒ *"I use it every day. And a lot of times when we want them off of YouTube and stuff, we'll pull up educational apps and stuff like that. So if we didn't have that, they wouldn't be able to access that. And now, well the pandemic is kind of still lingering, but it's over. But when they were going to school virtual, you needed internet. So that was a necessity." -Participant, St. Louis, 05.23.23*

> "But there are some, especially in rural areas and I'm going to tout the rural areas because that's where I am and where I've grown up, but people can get medical services on the internet now. There might be homebound people who could utilize those services who can't drive or can't have access to transportation. So, anything that would be able to benefit those rural communities as far as healthcare, possibly even access to attorneys and just consultants and therapists and things like that, that would allow those folks to be able to be at home, access those services and improve their quality of life. "
>
> *- Participant, Zoom, 05.18.23, 1*

Health

Across the state, participants access health services online. Participants shared that they are able to connect with their healthcare provider more regularly, as well as set up appointments or even meet for a telehealth appointment. A few participants mentioned that they need internet access to *"even fill a prescription with [the] doctor's office"* (Participant, St. Louis, 05.23.23).

Moreover, many participants rely on the internet for mental health services, such as therapy. Finally, a number of participants commented that they are able to stay healthy and fit with online exercise programs. Generally, participants in rural communities benefit more from internet-based health services than their urban counterparts.

⇒ *"Yeah. Y'all have that? And what it does, it relays your information, your medical information. So you can look up that information from the privacy of your own home. Oh yeah, you get your test results and everything. Well, a lot of times if you don't have access to Wi-Fi, or hotspot, or whatever, I mean you don't know what's going on, even your own health."-* Participant, Kennett, 06.22.23, 4

⇒ *"As well as we've had several people call in recently that need the internet to relay information to their doctors like if they have a heart monitor thing that just connects through the internet to provide that information. So we've had to find some funds to help. We've just used emergency funds, been able to help, support their internet bill so they're able to get that communication to the doctors." -*Participant, Zoom, 06.15.23

Social Connectivity and Social Media

Similarly, participants across all 20 focus groups throughout Missouri discussed how they use internet services to stay connected with family and friends. Specifically, participants mentioned connecting with friends and family members through internet-based apps like WhatsApp, Facebook Messenger, Skype, and Snapchat. Several participants shared the same sentiment, as one participant commented, "*without the internet, the communication would be a little bit different. It would maybe be less accessible in that sense."* (Participant, Zoom, 06.09.23). Connectivity accessibility was frequently mentioned. Another participant, from Columbia, Missouri, shared *"I just want to connect with one of my best friends, she's in a wheelchair, and she's in [inaudible 00:57:14] right now, and I can't go there every minute of every day" (*Participant, Zoom, 05.31.23, 2*).*

⇒ *"We were able to meet today because of the internet. We've met a lot good people online who have been helpful."-* Participant, Zoom, 07.06.23, Spanish

⇒ *"…The world is a much smaller place now because we have internet and because we have social media and because we have access to the world basically through our phones and through our computers."-* Participant, Zoom, 05.18.23, 1

⇒ *"I've got my two best friends. One is…in Philadelphia, and all three of us can be on FaceTime at the same time, and then I also FaceTime my girlfriend multiple times a day. Multiple times a day, while I'm driving."-* Participant, Kansas City, 06.14.23

⇒ *"I'll say that some of the things that I enjoy the most are like I can video call my mom and show her something cute that my kid is doing, or we can ask Google a weird question and Google will answer us." -*Participant, Zoom, 06.09.23

⇒ *"Well, we're all social people and the internet helps us stay connected. I've been in education 54 years and don't have sense enough to quit yet. But being able to stay in contact with former students and my family."* Participant, Zoom, 06.15.23

A few participants mentioned that they can participate in church services online, and a handful of other participants mentioned they were able to participate in marriage ceremonies by connecting online during the COVID-19 pandemic.

⇒ *"Also, we use it at our church when we doing live service…"*- Participant, Kennett Rachel

⇒ *"Yeah. We had a COVID backyard wedding with 30 people, just family, and then about a hundred people streamed it through Zoom."* -Participant, Zoom, 06.07.23

⇒ *"Yes, definitely a COVID thing. Even nowadays, even without COVID, grandma can't travel or we're trying for number two and my sister was about to get married. I don't want to miss my sister's wedding, but you could stream everything now, which obviously it's not the same, but nowadays, you could stream everything so that people who aren't able to be there can be there."*- Participant, Zoom, 06.07.23

News/Staying Connected to the Broader World

Relatedly, participants frequently use the internet to access local, state, national, and international news, and generally connect with the broader world. Several participants read the newspaper online and connect with communities in different states as well.

⇒ *"…Well, as we all know, internet is a very large environment where you learn a lifestyle. So I'll say it is a place you get important information, and navigates the world. As with internet, you can get more information, get more exposure. So I think internet is a global citizen."*- Participant, Zoom, 05.18.23, 1

⇒ *"And I'm not meaning to take over this, but it really has become a requirement for living in today's world and today's connected world. And I don't think most of us mind that. We just want to not be left behind because some of us are able to do it and some of us can't. We need the means and the ability to become a part of the connection."*- Participant, Zoom, 06.29.23

Entertainment/Games

Most participants, across all 20 focus groups, utilize internet services for entertainment, including streaming television shows and movies, and for games and exploring new hobbies.

⇒ *"I use it a lot for streaming and movies, TV shows, and social media. I have toddlers, so we like to watch a lot of Disney+ and stuff like that. I just like having access to whatever you want at the tip of your finger, honestly, and there's nothing you can't find out."* -Participant, Zoom, 06.07.23

⇒ *"For streaming different channels, maybe Netflix and things like that. I use it for streaming and just browsing the internet just on my free time."*- Participant, 06.26 FG

⇒ *"I like that, I think probably you've already said this, the social aspect of it, even if it's just having something to play in the background because when you are by yourself 24/7, with a two-year-old, it doesn't matter how sane you are, you're going to start hearing voices, so it's really nice to be able to have it just… And then, even if the kiddo wants to watch the same five things, I can, at least, be like, "Okay, well we can watch Baby Shark, but we're going to watch it in Mandarin and do your Mandarin lessons."*- Participant, Zoom, 05.31.23, 2

⇒ *"I don't know what to call this, but, of course, the internet use it for research, and exploring new interests, and hobbies, and just anything you want to know about, but,*

it's in a way taken the place of a library because it used to be you had to go to the library or find a professional to ask these questions to. I still use my library though, but thinking... So I don't know how to say this, but if somebody... We're always like, oh, what's the name of that person? Oh, let me just look it up."- Participant, Zoom, 05.31.23, 2

Shopping

Participants across Missouri use the internet for online shopping, and even to access coupons and discounts for in-person shopping. Participants residing in rural areas of Missouri particularly benefit from online shopping, as a means to access a greater diversity of goods and products.

⇒ *"I use it for online shopping. I order my groceries for pickup and that kind of thing."* - Participant, Zoom, 06.26.23

⇒ *"I mean, I'm a couponer. If I go to Schnucks I have to have my app and I need internet access. So that's how I save the most money."*- Participant, St. Louis, 05.23.23

⇒ *"Yeah. What came to my mind was shopping. We live 45 miles from the nearest Walmart, 10 miles from the grocery store. In a rural setting, sometimes the shopping opportunities that you can get online are wonderful."*- Participant, Zoom, 06.09.23

Paying Bills

Similarly, several participants across the different focus groups commented that they rely on internet access to banking, including unemployment insurance, as well as pay their different bills and utilities.

⇒ *"Bills. When bills are due, they'll send you a message to Gmail or your account, or whatever. Like, "Okay, I know it's due. Leave me alone."*- Participant, Kennett, 06.22.23, 2

⇒ *"Insurance. And it also, I pay, I do my online bill pay and I check my accounts and stuff like that. If I didn't have a way to access that, I wouldn't have never found the checks that these people had wrote on my bank account or cashed in my bank account that I had no idea of while I was incarcerated. And I mean they run it up and it was six accounts opened up in my name unknowingly and about to the tune of 22 checks that someone had cash in my bank account."*- Participant, Zoom, 05.31.23, 1

⇒ *"Bill paying. I mean, almost no companies send you bills anymore. They will but they sure don't want to and it is a waste of paper and everything else. But I mean it's just the norm. You have to pay bills for one thing besides work or school."*- Participant, St. Louis, 05.23.23

Home Services

A handful of participants across Missouri highlighted that they access home services, like security systems and heating and cooling devices through the internet. For example, one participant in Kansas City shared that they utilize the internet, *"to see what's going on in my*

house when I'm away. I turn my furnace and my air on when I'm away.",Oh yeah, I like that too. My parents have a Zoom camera in front of their house, and so I like being able to check in on them or see who's coming to the front door as well as…" (Participant, Kansas City, 06.14.23).

Searching for Resources

Many participants shared that they rely on internet access to search for various resources, whether they are vital to everyday living, like travel, work and school, or entertainment, or even simply to answer questions they have throughout the day. Participants shared that they access library resources online, and contact information for businesses and services.

> "Basic human interaction, contact with the outside world, income streams. I feel like those are all things that the internet gives us. Without the internet, we wouldn't have access to that."
>
> - Participant, Zoom, 05.18.23, 1

⇒ *"And then also I agree with everybody else, it sets you back and you don't have access to the things that the modern world is running on. So it's like, it's very isolating to not have internet access. And it creates a lot of barriers for like, "How do I look up phone numbers or how do I find these resources or how do I contact the people I need to contact it?" It just creates more barriers."*- Participant, Zoom, 06.09.23

⇒ *"When my kid goes outside and he catches a toad, we can come inside and just be like, "Hey, Google, what do toads eat?" And they'll tell us how to feed it and take care of it. So it's just the little things that we are able to do because we have that reliability and the internet connection that just make our lives more fun and more simple and more enjoyable."*- Participant, Zoom, 06.09.23

⇒ *"… I use it too to research summer camps for my daughter, summer activities. No more pamphlets to get information; just search it online. Search for resources too."* - Participant, Zoom, 07.06.23, Spanish

General, Everyday Uses of the Internet

The vast majority of participants across all 20 focus groups utilize the internet each and every day for multiple purposes, as highlighted below.

⇒ *"So I would say he probably uses it more than I do, because he works from home, and he works in IT, and he plays video games a lot. That requires the internet. But we still use it just for Netflix or our baby monitor. So, I feel like we probably are using internet almost every moment of the day in some capacity."*- Participant, Zoom, 06.20.23

> "I also don't have a vehicle, and with the way that the metro and the bus system is always changing their schedules or things break down, I can't trust that I'm just going to arrive on time based on the things that they have listed at the various stations and stops. I have to be able to know, hey, this train is down, or this is running late, and if you need to go here, you have to go to this station instead."
>
> - Participant, Zoom, 06.15.23

⇒ *"And I like the convenience of things like scheduling a doctor's appointment and being able to check your bank account, I mean, those things were not always available for you to just do. You always had to do in person or call somebody and now, it's just almost anything you want to look at. And another thing I thought of was, I know I just thought about this*

*recently, was how you become more familiar with other parts of the world that maybe
you wouldn't have learned about otherwise."*- Participant, Zoom, 05.31.23, 2*"Basic
human interaction, contact with the outside world, income streams. I feel like those are
all things that the internet gives us. Without the internet, we wouldn't have access to
that."*- Participant, Zoom, 05.18.23, 1

⇒ *"I do a lot of different things with my internet. I need it for email. I developed a
disability due to being in toxic mold, so I have a lot of legal and access stuff that I need
to be able to follow up. During the pandemic, I volunteered, and I answered a crisis line
from home using my internet service, which was really challenging. I wanted it, in the
past, for classes and access for things like that, because of my health I assume my
religious services, so I really need my internet for a lot of different things."* -Participant,
Zoom, 06.28.23

Quality of Internet Service

The quality of internet access and connectivity was a frequent topic across all 20 focus group
discussions. Participants discussed the plethora of benefits that they are offered with reliable,
high-speed internet. Conversely, participants disclosed the impacts they experience when they
face unreliable, interrupted connectivity and the consequences that come with the inability to
use the internet. Participants residing in rural areas of Missouri were more likely to face internet
disruptions, and thus more negative impacts on their ability to work, participate in learning,
socialize and connect with family and friends, and find everyday resources and information.

Benefits of Reliable Internet

During the focus group discussions, participants were asked to share the benefits they
experience when they have access to high-quality, reliable internet services. Participants shared
several reasons, including the ability to utilize wireless internet to stream television shows and
movies, paying for specific subscription services like Netflix and Hulu, instead of paying for a
more expensive cable service. Likewise, participants explained that they can easily search for
information and resources anytime they want, stay connected with friends using internet-based
apps like WhatsApp and Skype, and keep up-to-date on world events, local news, etc., as well as
do their shopping and medical appointments online.

Participants across all 20 focus groups shared that one of the greatest benefits of having reliable
internet is the ease with which they can do research. "*I do research on just whatever topics*"
(Participant, Zoom, 05.18.23, 1). Specifically, participants shared that they use the internet to
navigate travel, explore new interests and hobbies, search for home services, and explore
interesting topics anytime, anywhere.

⇒ *"And I like the convenience of things like scheduling a doctor's appointment and being
able to check your bank account, I mean, those things were not always available for
you to just do. You always had to do in person or call somebody and now, it's just
almost anything you want to look at. And another thing I thought of was, I know I just
thought about this recently, was how you become more familiar with other parts of the*

world that maybe you wouldn't have learned about otherwise." -Participant, Zoom, 05.31.23, 2

⇒ *"It's been really helpful having internet access. It can actually give you a wider best information about addresses, maps, and really helps you navigate your way through a lot of difficult areas."*- Participant, Zoom, 06.07.23

⇒ *"...and I think it's really helpful to be able to just look up any recipe for dinner. And I think it's really cool that there's apps that you can look up a recipe, and then it'll say, "Put this in my shopping cart," and then someone can deliver the groceries. So, I think the internet's made my life a lot easier."*- Participant, Zoom, 06.20.23

⇒ *"...Home repairs, how to figure it out and checking prices on things to see where they're cheapest. I used to be in online school too, so I've also done school."*- Participant, Columbia, 05.31.23, 1

Telemedicine was another frequently mentioned benefit among participants across the different focus groups. Rural-based participants appeared to benefit more from this service, especially during the COVID-19 pandemic. Rural Missourians typically have fewer healthcare providers to choose from, as well. Indeed, a recent report stated that 19 of Missouri's rural hospitals are at risk of closing, half of them immediately.[16]

> "Rural healthcare is suffering as hospitals close. Telehealth access is more important than ever."
>
> *-Participant, Zoom, 05.18.23, 2*

⇒ *"In this community, I think, the telemed has been a real godsend for people, especially during COVID, traveling and all of that, having internet access to medical advice and how that all works has been really important to a lot of people here."* -Participant, Zoom, 06.09.23

⇒ *"I'm really glad that you mentioned that because that is something that I... It 100% affects me. I do all of my appointments with my doctors. Almost all of them are done online because I moved from Springfield to Neosho. And because of having access to the internet, I didn't have to change doctors."*- Participant, Zoom, 06.09.23

Another benefit of reliable internet that participants shared was their ability to engage civically. For instance, one participant explained, *"As far as citizenship and being able to be active, I can much more easily reach any of my legislators or anyone that I want to express an opinion to. That can be done by phone, I understand that, but sometimes I just want to write a letter. It's much easier than writing it and sending it through the US mail. So, I think that access is important for people too, to express themselves as a citizen"* (Participant, Zoom, 05.18.23, 1).

Finally, several participants explained that they were able to reduce their entertainment expenses and give up cable for specific subscriptions. For example, one participant from the Spanish language focus group shared, *"...it's cheaper to pay for internet to screen movies and tv for our daughter rather than have cable..."*(Participant, Zoom, 07.06.23, Spanish). Another participant similarly shared, *"I know for me personally, it enabled me to not have to pay for cable anymore, which was really a nice thing for the budget."* (Participant, Zoom, 05.18.23, 1).

Beyond the conveniences that come with reliable internet service, participants shared two additional significant benefits of high-quality internet connectivity: (1) better awareness of what

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[16] Center for Healthcare Quality & Payment Reform (2023). *Rural Hospitals at Risk of Closing.*

is happening in the world; and (2) strengthened connection through internet-based communication services.

⇒ *"It's just made us a smaller world and we understand each other more I think, and we're aware of what's going on in the world more so than we ever have been. I grew up in the seventies as a kid, and we only saw what we saw on TV maybe once a day and at that time, we only got one or two television channels. There was very limited access to what was going on in the entire world. We had no idea. But now we know if there's an earthquake in Bangladesh or if there's a tornado in Louisiana or if there's something going on anywhere. I think that inclusivity and that coming together as a whole is one of the great benefits of that."*- Participant, Zoom, 05.18.23, 1

⇒ *"Yeah. [inaudible 00:33:28] I'd love to add how advantage of the internet has been on collaboration and working from home and also access to the global workforce. I really love to say the internet has really made a lot of anonymity and making people equal and it has also given a lot of connectivity to communities and communication and content sharing and lot of stuff as well. The biggest part to these for me would be information, knowledge, and learning. Those are three keys really enjoyable from the internet."*- Participant, Zoom, 06.07.23

⇒ *"Yeah. I'd say I really love having the internet, because it's really been strengthening my social ties and the internet has helped me organize a lot and help me collaborate more and share information with larger numbers of people, so that has really been enjoyable to me a lot."*- Participant, Zoom, 06.07.23

> "It's time consuming, its stress stressful, and then you have to deal with extremely low-quality service because they're going through old lines or like I say, satellite is just very unreliable due to weather and wind and everything else."
>
> *-Participant, Zoom, 06.29.23*

Disruptions to Internet Service

Participants value reliable high-quality internet access. Nevertheless, internet connectivity is prone to disruption due to a variety of causes, including weather. For example,

⇒ *"During the wintertime, I have a really hard time using it in the house. I'm not sure why that is, but maybe that's something that can be addressed…Usually, it's really good, but I can tell when we have clouds out and stuff that it affects it."*-Participant, Zoom, 6.26.23

> "Seeing your family in Mexico when you talk to them." "It's been 13 years since I've seen family. None of my family members have been able to get a visa. When you're able to see them on video is really special."
>
> *- Participant, Zoom, 07.06.23, Spanish*

⇒ *"When I'm not home though, I work in retail currently, so we strongly rely on the internet there as well. And I don't really know what they have for internet there, but it's really bad some days, and it seems to depend on the weather for us. So if there's any severe weather in our area, it affects our connection at work. So we're not able to process our inventory as fast and sometimes it shuts down our registers as well, so we won't be able to use those to check customers out either. So that's a big issue for us."*- Participant, Zoom, 06.09.23

Participants residing in rural areas of Missouri were, on average, more likely to share connectivity issues and weather-related impacts than their urban-based counterparts. Internet disruptions are unsurprisingly stressful and impact individuals' ability to work, connect with family and friends, and access online services.

⇒ *"But when they're doing homework, that's when it's hard during the school year. Because if it snows or something like that, it'll just cut them off and it'll stall. So when we had to be here for COVID-19, I was praying to God, "I hope it works today."* – Participant, Kennett, 06.22.23, 2

⇒ *"I have dish cable. Let it be lightening. No rain, or nothing. Or let it rain or miss. Boom. Your service is done for. Until it dries out. Until it's dry. Until the rain stops falling, and stuff. Or lightning, or whatever. Bad service with this."*- Participant, Kennett, 06.22.23, 3

⇒ *"Can you expound on the component or the part where you say you studying about weather and the effect for broadband? Because that's the problem we have. As you know, the southeast area has a lot of tornadoes or high winds and sometimes that really impacts internet connections up to days, hours, and so.... But yeah, weather conditions really determine the usage of our internet.* -Participant, Zoom, 06.15.23

Participants across several focus groups, especially those in rural areas of Missouri also shared that physical Infrastructure, such as the type of building or terrain, can negatively affect their internet connectivity.

⇒ *"I think a lot of it depends on where we live, the location, and the lay of the land basically. I know we've often had, where I live is kind of in what we used to call the swampy part of Missouri, but it used to be underwater hundreds and hundreds of years ago. We're kind of in the low part of the county and lots of trees and rivers and lots of things to block signals. Even signals of cell phones don't work as well when you get out of a certain area. I also have had to drive a distance to get a signal to get out at some point."* -Participant, Zoom, 05.18.23, 1

⇒ *"Especially in bad weather, around metal, or buildings, and different things. Try to get on the internet, and even if you just try to get a little help from Google, it just buffer. Just buffer takes hours, and hours, and hours to-"* -Participant, Kennett, 06.22.23, 1

⇒ *"Yeah, and I'm like I ain't got no limit, but apparently I do. And then metal buildings too. We got a lot of people in a lot of metal buildings, so that's doing [inaudible 00:06:54]."* -Participant, Kennett, 06.22.23, 4

⇒ *"Well, like I said, I live in a small town. We have a population of just under 200. And during COVID, my husband had to work from home and the local internet service that we had was not good enough, so we ended up getting satellite, which is okay, except if it rains or if the wind blows from the wrong direction or if the sun hits it at the wrong time or if it just decides to go on the blink. So you can be in the middle of a Zoom call and be going [inaudible 00:08:47]... But anyway, so yes, we have some issues in our neck of the woods."* -Participant, Zoom, 06.15.23

In addition to the above-mentioned disruptions, due to weather and physical infrastructure, participants across all 20 focus groups shared how general connectivity issues, such as sudden internet failures and/or slow connections and buffering impact their day-to-day lives. Again, participants residing in rural areas of Missouri face increased connectivity issues.

⇒ *"Our barriers have been, especially when we had CenturyLink, the service would cut out continuously, especially when COVID happened. My fiancé or we were both working from home and our daughter was trying to do her schooling as well. CenturyLink kept cutting out on us and it just made that very difficult for us to do anything. My fiancé, we let her do her work. Thank God my truck has a hotspot, so to get a signal I have to go about halfway down my driveway to get a signal in my hotspot."* – Participant, Zoom, 05.18.23, 1

> "When I did work from home, that's actually one of the reasons I quit my job, is because of the continual disconnecting, losing connection. A lot of it was my work, but a lot of it was, especially here at my mom's with AT&T, was the connection. It cost me my job almost, really."

⇒ *"Oh, I agree with what she's saying. I live in Bloomfield. I'm not sure, I don't know if I'm in a rural area or not, but I'm not in the city area or anything like that. And having trouble with the internet is a common thing around Bloomfield also. And with my phone, sometimes living down there, I won't get the service that I normally have. As soon as I leave Bloomfield, then all of a sudden, my phone is better. But when I'm down in Bloomfield, I barely can even watch Netflix on it or anything, even with my Wi-Fi, which makes no sense at all. But as soon as I leave Bloomfield, I can go in any other direction, I've got five bars automatically, four bars or whatever it is. But staying in Bloomfield, I've got one to two bars every single day. And, yeah, we've thought about moving to the city. Right now I'm actually in Kansas right now because it's my summer break, I work at the school, and I've got all the bars I've got right now from here. But if I was in Bloomfield, I've only have one or two bars."*-Participant, Zoom, 06.28.23

Impacts of Unreliable Internet Access

As highlighted earlier, participants expressed the value of having reliable internet service at home. Likewise, when their internet connectivity is disrupted, participants experience several negative impacts, affecting their ability to work and participate in learning/school, communicate with family and friends, and enjoy entertainment at home.

Indeed, participants across all 20 focus groups shared that weak and/or disrupted internet connectivity interrupts their ability to work remotely, increase their work flexibility, and even apply to jobs. Participants, many of which are women, some of which have a disability, and likewise reside in low-income households in rural areas were more likely to share the negative impacts of their unreliable internet.

⇒ *"My job that I have now has the option for me to work at home some days, but that's nearly impossible for me because I have to rely on my cell phone to do so, as I can't get enough internet service at home to access files that I need. So, my work schedule could be more flexible, which might add to a little bit of quality of life I would suppose if I were able to tailor my schedule to what would benefit my home life even more."*-Participant, Zoom, 05.18.23, 1

⇒ *"I know in this area, I've come in contact with some people that would like to take a part-time job strictly for... Because childcare is so expensive, they would like to take a part-time job like working from home, but they can't because they don't have a reliable*

internet connection, and no one will hire them if they can't have that availability, as far as being able to do the job or whatever services that they're doing with their work from home."- Participant, Zoom, 05.18.23, 1

⇒ *"And again, that was affecting opportunities for things that I would be putting on a resume, whether it was volunteer work and you need that consistency there because it becomes a reflection on you. And a lot of it isn't really seen as the logistics of where you live or what's available in a rural area to you. It's seen as a level of responsibility and addressing it was difficult." -Participant, Zoom, 06.28.23*

Moreover, many participants explained that poor internet connectivity adversely impacts their ability to complete their school assignments and participate in online learning, which was required at various stages during the COVID-19 pandemic.

⇒ *"Yes. Yes. A lot of times, I can't even complete my school work. I haven't been able to really now. I need to take two tests and I can't because of the internet, it is buffer all the time. It just buffer."*- Participant, Kennett, 06.22.23, 1

⇒ *"I forgot about this, but back when I was in school, if the internet quit working, a lot of your schoolwork today is online, so say maybe you're working on discussion board and you're in the middle of typing something and the internet goes out, sometimes you lose everything. It doesn't save what you were typing, you have to redo that assignment, or maybe you're in the middle of a test, because sometimes they do online tests, and the internet goes out, and so it will just drop you. Then the teacher's like, "What happened? Why didn't you take your test?" you have to try and take it again or maybe have to reach out to your instructor to try and get a paper form of the test, so that way you can actually get it done. Also, if the internet's out, it's hard to even email your instructor to let him know, "Hey, our internet went out and I wasn't able to do the test," and so there's a lot of things that could go wrong just for schooling as well. "*- Participant, Zoom, 06.07.23

⇒ *"A couple people have mentioned it already, but just it's also instrumental, especially nowadays post pandemic with education. So many kids, my sister's kids all have at least one or two days a week, I think, these days where they just are remoting in. And if they don't have access to that, that's a whole day of learning that they miss that may set them behind weeks or months in the long run." -Participant, Zoom, 06.15.23*

⇒ *"Yes, absolutely. Especially when COVID came around and then everybody went in. There were parents in tears, they were crying, "How is my kid going to go to school? How will I do this? [inaudible] afford internet, we don't have access to internet." Then they were talking about you have to drive your kid to meet in a location and they've got nothing, nothing was practical for people when there was COVID. Of course it was but I mean even more so when you add in the education of your child"*- Participant,, Eminence, 06.14.23

As previously mentioned, participants across all 20 focus groups rely on the internet for everyday resources and the ability to search for services, opportunities, and information. As such, when their internet access is interrupted and/or is consistently slow and weak, they shared that they feel they are hindered in their everyday activities. Relatedly, participants were asked to reflect on how they would be impacted if they did not have access to reliable internet. For example,

⇒ *"Yes, it would. I wouldn't be able to work from home. I, of course, do my shopping, grocery shopping. Another thing that I do is a lot of medical research, and so I look up medications and different ailments. I'm kind of an advocate for my whole family, and so that's a big thing for me, is trying to access to that kind of information."*- Participant, Zoom, 06.27.23

⇒ *"Yeah. So in my work line, there are lots of community events and things like that that need to be put out into the community. And most of the time, the biggest way to get it out is through Facebook. So without internet, people wouldn't know what events are going on in our communities. That's one of the biggest things that I can think of. And I do know people that do counseling and things like that virtually. So, they wouldn't be able to do that if they didn't have internet. There are lots of things that would be cut off."* -Participant, Zoom, 06.20.23

⇒ *"So yeah, I just know that if I don't have it, it is very difficult for me to carry out my normal, everyday activities. To be honest, I use it constantly, all day long and all night long. So, because our life alerts are on it and things like that."*- Participant, Zoom, 05.31.23, 2

⇒ *"We live out in the middle of nowhere, near the fairground, so even just using Messenger to talk to supports that I have or order food because we need food. If the internet's gone, it's like we're not eating, there better not be an emergency because you can't call anybody."*- Participant, Zoom, 05.31.23, 2

Importantly, participants frequently mentioned that limited or inconsistent access to reliable internet would impact their ability to access medical providers. Again, this particular issue was more common among participants residing in rural areas of Missouri.

⇒ *"Here it is. I always said it's 2023 now and we're all here, especially in the rural areas, are still having, the best way to say it is rough-it. Especially like [other participant] was saying, things like in today's age, just like Teladoc, my parents are retired and they have doctors that want to do Teladoc services over Zoom and they just can't do it. In today's day and age, that's where a lot of people are turning, so we really have a lot of issues that need to be resolved around here."*- Participant, Zoom, 05.18.23, 1

> "I do some therapy online, so that helps me and that would impact me greatly if I didn't have my internet."
>
> *-Participant, Zoom, 06.29.23*

⇒ *" And so, that impacts a person's health because they can't really access telehealth or if they're having to contact an employer or speak to their employer, or let's say, a child needs access for their school, it makes it really difficult and people are extremely frustrated with their affordability, the low quality of it."*- Participant, Zoom, 06.15.23

⇒ *"For me, I have disabilities, I have issues with my oxygen, and when I talk sometimes, some days are good, some days are bad, but I communicate also to St. Louis as well with my medical providers and it's almost impossible to get a good connection and not have to just do the old-fashioned call."*- Participant, Zoom, 06.29.23

Another challenge many participants face when their internet connectivity is disrupted and/or is inconsistent is increased difficulty in communicating with family and loved ones.

⇒ *"Well, I wouldn't be able to keep up with my brother and sister, who live a long ways away. My daughter is just a couple towns over, but she and I video chat all the time so I can see the grandbabies and what they're doing."*- Participant, Zoom, 06.26.23

⇒ *"During the pandemic, I made a lot of friends that live in other states or other countries, if I don't have access to internet, I lose a large chunk of my friendships and relationships that I have forged over the last couple of years, which would be a real psychological downside."* -Participant, Zoom, 06.15.23

⇒ *"I think you would lose a lot of contacts, a lot of outreach, because through the internet you could actually reach a diverse group of people, a wide range of people, but I think that access will be taken away."*- Participant, Zoom, 06.07.23

⇒ *"But as far as our clientele that we work with, some of them use it to video chat with their family and their children that don't live here. We had a lady in and she was very upset when her phone wasn't working because she was missing chatting with her son who was severely depressed across the states. So that's a huge thing for a lot of our clients and a lot of them are elderly as well. So getting that little bit of connection with their families, I think, is important. "* -Participant, Zoom, 06.15.23

Ultimately, when individuals need to access the internet and their connectivity is disrupted, they often have to travel to a public place, commercial establishment, or someone else's home to connect online. Not only does such travel require time and resources, but it is also a tremendous inconvenience, as many participants reported.

⇒ *"Heck, even going to court proceedings, you can't even, during COVID you couldn't go through, you'd have to be on Zoom live. I would to have to go to the library and do my court proceedings and my child custody and stuff like that in the private rooms that they have upstairs and that was the Wi-Fi. I mean we were able to utilize those services and that made the biggest difference. I mean if we weren't able to make it to court dates then, I mean they'll throw your kid in foster care, a lot of stuff goes round and round. One broken link in the link, the link, it can really screw up a lot of things"*- Participant, Zoom, 05.31.23, 1

⇒ *"[A] lot of our clients up here, if they do have to go to the library to use service, I mean, we have one library in the county that has that. So Maryville's the one that has the main library and people have to drive to that. So it could be anywhere from 30, 40 minutes to get to that, to be able to do that for our clients, that's a strain."*- Participant, Zoom, 06.15.23

In short, internet disruptions or lack of access to internet services altogether negatively impact individuals and communities across Missouri. Later in this report, we examine how limited broadband access adversely impacts specific communities in Missouri, such as rural residents, low-income populations, English Language Learners (ELL), the LGBTQ+ community, and Black, Indigenous People of Color (BIPOC).

Internet as a Necessity

Across the 20 focus group discussions. Participants discussed internet access as a necessity to daily life in today's society. Quite unanimously, participants view the internet as a vital utility for everyday life. Moreover, participants expressed how essential internet access is, and the need to

ensure equitable access to internet connectivity for everyone, especially during and after the COVID-19 pandemic.

⇒ *"Yes, I'm really appreciating the comments of people who don't have the good access, even if they can afford it, don't have good access. I was thinking that internet access is way more than and includes what used to be telephone access, which is pretty much an essential as far as a person's life and safety. I think the internet is that in a more expanded way and I'd just like to see more equity. It seems like at least the basic connectivity for people. There should be a level playing field available and we're not there yet."* - Participant, Zoom, 05.16.23

⇒ *"I think internet needs to be treated more like a utility and be less in the hands of private companies because as we said, these private companies, they can charge whatever they want and there's not really any motivation for them to make sure that, A, the price is fair or that, B, you actually get the product for the price, that it's actually reliable and works, otherwise, what are we paying for? Versus the electric company and the water companies, they're held to those utility standards, so they can't just charge whatever they want for the utility. They are held to a regulated price and I think internet probably needs to be treated the same way."* - Participant, Zoom, 06.07.23

⇒ *"I use it to translate English to Spanish. It's no longer a luxury to have internet, it's a necessity."* – Participant, Zoom, 07.06.23, Spanish

⇒ *"And I'm not meaning to take over this, but it really has become a requirement for living in today's world and today's connected world."* - Participant, Zoom, 06.29.23

Participants who are parents especially agreed on the importance of having high-quality internet access.

⇒ *"But if you have children at home, [inaudible 00:16:31] basically have to have it."* - Participant, Kennett, 06.22.23, 4

⇒ *"You need to have a good access to high quality cable Internet for easy access in learning."* - Participant, Zoom, 05.18.23, 2

⇒ *"Yes. Raising children right now and having internet is just you have to have it."* - Participant, Zoom, 06.09.23

⇒ *"But it was to the point where it was totally implied that if I did not get it, I was standing in the way of my kids' success in their education."* - Participant, Zoom, 06.29.23

Simply put, participants in every focus group discussion commented that the internet is essential for everything we do in society, including basic safety.

⇒ *"The internet now is used for television, for entertainment purposes. Homework, it is so essential to have the internet, almost like having a cell phone nowadays. But you almost have to have those two things together in order to work. And the funds of it can get expensive if you add on streaming or whatever."* - Participant, Zoom, 05.18.23, 2

⇒ *"The overall thing is, now, in these last evil days, the internet has us in a position where we bank, we clock in to work, we take pictures, we do this, we do that. We celebrate, we send money. All those things that we do, requires the internet. You can't do any of those*

things unless you walk in physically doing it, and with your hands. Without the internet. So, without the internet... We'd be lost." - Participant, Kennett, 06.22.23, 3

⇒ *"So internet, having the internet and access to the internet is absolutely a pillar in everyday life I think. And everyone lives, I believe, and I mean unless you're totally off the grid and stuff, but not a lot of people are and I mean not a lot of people can be."* - Participant, Zoom, 05.31.23, 1

⇒ *"I mean, essentially internet access is necessary to do almost everything now. So I enjoy having the ability to do those things, make life a little bit easier and less stressful, being able to get things done with having access to it."* - Participant, Zoom, 06.09.23

How the COVID-19 Pandemic Exacerbated the Need for Internet Access

In March 2020, when the world shut down, schools and most office buildings closed, and employees, parents, and children were suddenly forced to participate in work and school from home, access to reliable internet services became more important than ever. Today, many employees continue to work remotely, either full-time or in a hybrid model, and online learning is likewise still preferred in many contexts, particularly for post-secondary education. Consequently, the pandemic has exacerbated the need for reliable broadband access in Missouri, as highlighted by many participants across the 20 focus groups.

"It was my accessibility for shopping, for religious services, for medical, for classes, everything during the work, during the pandemic, all of that. I didn't see my family for three and a half years, because of my health situation at all. My doctors were not for it because of the exposure that my family had. So it was my complete lifeline and before that, before I had the health issues, it was not that in my life. It was a secondary thing and then it became a very primary need." - Participant, Zoom, 06.28.23

⇒ *"For the last four years, I've been going to Northwest Missouri State University to get a degree and a lot of it was online. So I'd go to campus and I'd use their internet and everything. But I would also of course have to bring homework home, and there for a while, when we were during COVID, we would host Zoom meetings like this to have class. So without internet access, we wouldn't have been able to have any of that really."* - Participant, Zoom, 06.09.23

⇒ *"A couple people have mentioned it already, but just it's [the internet] also instrumental, especially nowadays post pandemic with education. So many kids, my sister's kids all have at least one or two days a week, I think, these days where they just are remoting in. And if they don't have access to that,*

> "I think post-COVID, with so many people working remotely for so long, people are seeing internet access more as a utility instead of a luxury now. I've always kind of thought of it as a utility, because, I mean, it's more than just something you can use to play a game or look up information. You can work with it. You can use it to run a baby monitor, security cameras. Stay in touch with friends and family globally with it. The government doesn't really see it as a utility like gas or electricity, unfortunately. So, it allows some providers to kind of have a market cornered. Or if they're the only game in town, just to charge whatever they want, and not really put the effort or investment into improving the infrastructure in the area."
>
> *- Participant, Zoom, 06.20.23*

that's a whole day of learning that they miss that may set them behind weeks or months in the long run."- Participant, Zoom, 06.15.23

The COVID-19 pandemic not only proved how vital internet access is in today's society, but it also exacerbated inequities when it comes to reliable broadband access across Missouri.

"Brutal. Yeah, it's brutal. I mean everything, it seems like over the past three years, four years since COVID began, the beginning things of COVID, if you didn't have internet you were screwed basically, excuse my language, but you were and at that point in time I was struggling, I was homeless, I had four kids living in an apartment that had no running water, no electricity, no nothing. And sometimes I would be without a phone to be able to contact anybody in case there was an emergency or anything. Communication is everything, internet is part of everything in most of our lives today. Whether it's just cruising the internet or if it's legitimately jobs or stuff like that. A lot of things have gone totally web based and it's like, if you don't have access to a cell phone or a laptop or internet device- You're basically in the dark on everything. I mean, there was no way for employers to contact you. There's no way for anyone to keep in touch with you and I mean it's as if you're just in a dark, or at least I was in a very dark place then, so I'm thankful for the things that the internet and everything with, because I mean you'd have to email people back from local organizations that were helping us try to get out of our bad situation."-Participant, Zoom, 05.31.23, 1

While some participants noted that they had to sacrifice internet service because their household income was impacted during the pandemic, others experienced major challenges in accessing remote learning and employment because of already weak internet access.

⇒ *"Prior to the major that I'm in now, I was in social work. One of the things that I did find during the time of especially Covid, when Covid started, was at the time I was working with youth and community, and there was a lack of access with lower income families that... I don't need to remind anybody about Covid, but how many parents had to actually go to McDonald's, or different restaurants and things like that."- Participant, Zoom, 05.18.23, 2*

⇒ *"I had to turn off my internet during COVID. For 3 months we were at home during COVID without internet because it was too expensive for us during that time. My husband was without a job for a bit and it made it hard for us financially."- Participant, Zoom, 07.06.23, Spanish*

Trade Offs

As illustrated above, most participants across Missouri believe that the internet is a necessity. Indeed, across the different focus groups, many participants shared that they were often confronted with a choice- a financial trade-off- to prioritize internet connectivity at home. Often, participants would choose to keep internet access, at the expense of paying other bills on time, or going without other necessities and amenities, just so that they could continue to work, go to school, or provide resources and entertainment for their children.

⇒ *"I've definitely had to not pay bills, or borrow money, or I wouldn't say not pay bills, and then, I just borrow money or go to somebody's house, like hey, we can't live in the middle of nowhere, no internet for days." - Participant, Zoom, 05.31.23, 2*

⇒ *"And then also currently, dealing with financial constraints post-divorce, now as a single mother, I have flat out decided to pay my internet bill over some of the other bills that I have because when you have a tight budget and you have to decide what are your priorities, the credit card bills isn't as important as having access to the internet so you can continue to do your work."*- Participant, Zoom, 06.09.23

⇒ *"...Sometimes because the internet was so expensive but you had to have it, it was bill roulette to see, "Which one am I going to skip this month or be late on to make sure that the internet bill gets paid on time?" because they will shut it off first thing and with the other utilities, you get a little bit more grace."*- Participant, Zoom, 06.07.23

⇒ *"In the summers when all three of my kids were home and I was only working a minimum wage job, so I was paying my sitter more than I made, I used to pay the internet bill and not pay [inaudible], because I figured out that you could go like three months without paying [inaudible] and that was how I got through the summers."* – Participant, Zoom, 05.31.23, 1

Concerns with the Internet

It is evident that participants across the 20 focus groups throughout Missouri believe that internet access is a vital necessity in today's world. Nevertheless, participants share several concerns about the internet, including what data they believe is collected, to fears around scams, misinformation, theft, and viruses, and specific safety concerns for vulnerable populations, such as children and older persons.

Data Being Collected

A frequent theme across the 20 focus groups was the concern about what data is being collected when participants utilize the internet. Participants commented that they often receive targeted advertisements on social media platforms like Facebook and Instagram.

⇒ *"Has anyone ever been on Facebook and then you Google something and search something and then 10 minutes later you see it again? They're tracking your every move, what you search, and that kind of freaks me out quite a bit. I deleted my Facebook this year because of those concerns. I absolutely have seen it and noticed it. I will even notice it on Instagram, which I have yet to delete them I'm on my way out. If I say, "Oh, well my internet provider is this." All of a sudden I get targeted ads for new internet providers. So it's like they have access to all of this data and they're recording it and you are the product."*- Participant, Zoom, 06.09.23

> *"…I've had to change what my grocery list was going to look like that week because internet [costs] went up."*
>
> *-Participant, Zoom, 05.31.223, 2*

⇒ *"I mean, if you think about all of the data points that exist about you and your family members or your friends and loved ones that exist and how that information can be used, I think, that to me is one of the scariest parts of the internet. How much information is just out there about you that you do not have control over because there is no legislation or regulation that allows you to have control over it, I think, that is the*

scariest thing for me. It's just like what is out there about you that you cannot take back or control [inaudible 00:57:02]"- Participant, Zoom, 06.15.23

⇒ *"If there's one thing I've learned from watching some TikTok videos is that it does not matter how private you think your stuff is, somebody can find your information."* - Participant, Zoom, 06.28.23

⇒ *"You start noticing these little ads, these little popups on things that if you were looking for a computer, a new computer, then on Facebook you'll start noticing little ads pop up about computers. And I know it sounds like a conspiracy theory and stuff, but it's actually true. And as far as being safe with those kind of programs and stuff out there, there's really no way to be absolutely safe."*- Participant, Zoom, 06.29.23

Safety Concerns Accessing Internet in Public

As explained earlier, many participants need to travel and utilize the internet at public places, like the library, or commercial establishments and restaurants, especially when their internet connectivity is disrupted. Participants shared concerns around connecting to free WIFI at commercial establishments.

⇒ *"Yeah, I don't even connect to those because I feel like they're not secure."*- Participant, St. Louis, 05.23.23

⇒ *"At home I feel like I have a little bit more control, but if you're out and the way people can mirror stuff and if you lost your phone or whatever, you worry more about your phone..."*-Participant, Zoom, 06.28.23

⇒ *"Because if you're on wifi, and you're at McDonald's, it could be somebody in the corner watching you. I've seen people like that. They be in the corner there, be watching, you be messing around on your phone, and your PC, and they can be picking up everything you're doing..."*- Participant, Kennett, 06.22.23, 1

Scams and Theft on the Internet

Many participants expressed their wariness about scams on the internet. In fact, many participants have witnessed family and friends experience scams, including identify theft, as highlighted below.

⇒ *"Scams.","The amount of scams right now, like trying to find a place to live in 2022 right now through Zillow where they're presenting theirself to be this top-tier thing, and then you look at the top five things where you can get a rental property and it's all the same rental properties. And then you end up that they get the Google phone number that says, "Oh, this person's in Missouri" and then they have this automated message. It's all the same information that you read about, what the rental property is, but when I finally get ahold of Brenda, who is not from America, but she's in Arizona? I'm like, "Why am I talking to somebody in Arizona about a property in Missouri, that I'm never going to get to the property management?"* -Participant, Kansas City, 06.14.23

⇒ *"there's so many scams out here that people will use your information to try to scam somebody that you know. Even like in my own family, like my brother that lives in Seattle, he was saying ... He had texted me or called me about something and he said I*

had reached out to him. I said, "John, that was not me." You know?"- Participant, Kansas City, 06.14.23

⇒ *"Yes. Well, about six weeks to two months ago my identity was stolen and it was just awful. I had to go to both, I bank with two different banks. It was my fault I guess because I got something that "your identity has been stolen, call this number." And of course I'm going to call that number and of course, that was a no no but retrospect of course it was. But they said no it's okay, we [inaudible]. The [inaudible] had already transferred $1,700 out my account and I couldn't log onto my account. So he said, "The only way we can fix this" and I talked to two of them, that was all I could [inaudible]. "The only way we can repair this is you have to give me your banking number and transfer the amount that was withdrawn. And then tomorrow we will replace $3,400."*-Participant, Eminence, 06.14.23

Misinformation

A related concern that some participants shared was around misinformation, as one participant explained, *"You can find anything online. I could post ideas or information that is incorrect. There's no regulation or way to filter information that is post. It's hard to know what is true. You can upload a Tiktok video quickly that might have misinformation. Social media too. People can post things that are racist or hateful without regulation. The internet has advanced so quickly we can't keep up with regulation. This can result in bullying too"* (Participant, Zoom, 07.06.23, Spanish).

Safety Concerns for Vulnerable Populations

The most frequently mentioned concern that arose in nearly all 20 focus group discussions across Missouri was safety concerns for vulnerable populations, including children and older persons.

Specifically, safety concerns for children and youth centered on social media-related bullying, online predators, and general worries about the collection and misuse of minors' data and personal information.

⇒ *"Like I said before, I have two teenagers, two teenage daughters and my youngest one, the internet is a very scary place for me to let her be. Last summer when I was checking her phone, she had told someone she didn't know her location, shared her location. And I'm like trying to get her to understand how scary that really is, I think, is difficult. I have shown her those videos on TikTok where you can take a picture and then that guy will track down and tell you the exact location you're standing at just so that way people are aware that just from any picture that you think is innocent isn't really innocent because people are smart, they know how to work around and figure out where you're at by landmarks and things like that. So just I think educating children about that stuff is a huge issue. But that's a lot of stuff to get when teachers already have a lot of things to do and they don't always listen to their parents either. So it's a scary place."*- Participant, Zoom, 06.15.23

⇒ *"I work with 4-H youth, and majority of them are underserved. But we have this issue a lot. Most of our youth have phones, and they access the internet. They don't have cellular service necessarily, but they do have data through Wi-Fi. So we often have to address messaging online, this constant flow of bullying with the kids. And they're really young, and they're already experiencing this, and so it gets out-of-control. So we really have to try to band cell phones, because they always have it in the back of their mind. Like, "Who is saying this? Or who said this about this at school?" So, I can get concerned about the kids that are home that don't necessarily have anybody monitoring that behavior. And a lot of their parents, they might be working, and so they feel comfortable with them having a phone because that's their touchpoint. Like, "If the kid doesn't have a phone, we can't contact them when we're at work."-* Participant, Zoom, 06.20.23

⇒ *"So they need the phone, but then there is not necessarily any sort of monitoring or restrictions for that kid who is at home by themselves and then are chatting with friends. But also, it's so easy to chat with people you have never met before. I have a Girl Scout troop. They're eighth-graders. But, I mean, they have their best friend that lives in New Orleans that they've never met before, but they have these intense conversations online. And it's like, "This person can be anybody." And they're not my kids, and I'm like, "Do your parents know about this?" Because it's just a different world."-* Participant, Zoom, 06.20.23

⇒ *"I have a 10-year-old. If we're watching YouTube, sometimes you come across commercials about subject matter you don't want to discuss with your kids yet. I feel like I lose control during commercials."* -Participant, Zoom, 07.06.23, Spanish

> "... I mean, I guess I do worry about unsafe videos if she were to get on YouTube Kids. They say, "Oh, it's safer because it's for kids, and it's safe material." But if you aren't watching over their shoulder, there are really creepy, just weird videos that sneak in there."
>
> - Participant, Zoom, 06.20.23

Many participants shared serious concerns about the vulnerability that older persons face, as a result of their typically more limited internet literacy and understanding of safety and privacy controls. Several participants have witnessed older people experience scams and online theft, for example.

⇒ *"Oh yeah. We just found out that my grandmother, through Facebook, got scammed out of $19,000. I was definitely going to say scams, just privacy of your information, but it goes beyond that. For your kids, you're hearing about people getting in touch with your children in different computer games through the chats, and grooming them and making plans to meet up and different things, sending pictures over the phone or over the internet. It's a scary world we live in. While the internet has its pros, it definitely has its cons, as well, with those types of things."-* Participant, Zoom, 06.26.23

⇒ *"I have one concern for elderly people, I guess. For example, my aunt, who I taught her how to use the internet many years ago, and she's now 87 and she still uses it, but at one point when she first was online, she was catfished by a guy who pretended to be this young military guy. They had a whole relationship and she sent him money. I found out about it, she told me about it, and I did some research and found the real*

person who the photos belonged to. He said, "You're the ninth person who's contacted me about this." -Participant, Zoom, 06.26.23

⇒ *"And then I think about, my parents are older. I think my dad's pretty savvy with this phone, but my mom will be like, "How do you take a picture?" She doesn't know how to do anything on it. So I could see her maybe falling for one of those scams where they'll text you a address and be like, "Your bank account is negative," or whatever, and accidentally giving away information. I don't think that she would've ever had any type of training on that type of safety with the internet."- Participant, Zoom, 06.20.23*

A Note on Internet Literacy

Internet literacy was another top theme that emerged from focus group discussions across Missouri. Importantly, it should be noted that participants were not asked explicitly about internet literacy, but the topic surfaced over and over, especially during the discussion about safety concerns with the internet, particularly for vulnerable populations. Indeed, participants share concerns about certain populations' understanding of internet safety and security, as well as how to access online materials, applications, and resources in general.

⇒ *"...I think we're not just talking about access. I think sometimes people don't have anyone or any place where they can learn how to use their phone or a computer for the types of access that could make their lives richer, safer. Telehealth or even therapy that some people do online can be a lifesaver for some people and I would like to see that available to everybody." -Participant, Zoom, 05.18.23, 1*

⇒ *"It's just a lack of knowledge. People don't know ...","But if you don't have someone that can teach you about these things, you're at a loss, you know? You really are. I mean, my mothers would never touch any of this stuff, so I do a lot. But you really have to have someone that's going to take the time to explain to you what this means, how it works, because again, if you're not staying current, you're going to be left behind and it's going to be a sad day because you're going to ... but you need somebody. You really do."- Participant, Kansas City, 06.14.23*

> "I can tell you, this is my first Zoom meeting, so it was an experience logging on."
>
> *Participant, Zoom, 06.09.23*

⇒ *"Yes. I think from... I'm going to be honest, I'm an idiot when it comes to it. I have very little knowledge, very little experience. I mean, I'm glad my internet works, but when I'm thinking about trying to get our whole county involved, I've just been trying to get with mayors and different partners and people who might have, that's why I'm attending this because I want to find out how we can share more information." -Participant, Zoom, 06.15.23*

Equity Implications

Across the 20 focus groups, with representation from all over Missouri, discussions highlighted the particular, acute, and at times, chronic needs of specific groups, such as rural residents, low-income communities, Black, Indigenous, People of Color (BIPOC) and LGBTQ+ populations, and persons with disabilities. Namely, these diverse groups face challenges with accessing internet providers, affordability of broadband access, connectivity issues among others. This

section highlights some of the key issues facing those participants residing in rural Missouri and those from minority demographic backgrounds.

⇒ *"...So I think it's just, the companies need to just really do their part to help bring reliable broadband access to everyone. Because everyone needs it, from school children to business folks."*-Participant, Zoom, 06.20.23

Rurality and the Internet in Missouri

⇒ *"I would just say that having lived in a variety of places within the state, I've definitely noticed that there is always significantly better access and higher quality access in areas with more money, and that I just really think that Missouri broadband access really lacks that equity. Obviously, rural places and just places where the median household income is lower, in my opinion, I've noticed that just tends to go with poor internet access, and I just think that lack of equity is really, really unfortunate and disturbing."*- Participant, Zoom, 06.07.23

As highlighted earlier in this report, participants residing in rural areas of Missouri consistently have fewer options in terms of internet providers and type of internet. Affordability in rural areas, particularly among lower-income households in rural communities is another key issue.

⇒ *"Something that I saw, as I said, I'm a retired teacher and I taught in rural schools, and something that I think maybe urban people never even consider that is an issue for rural students, for rural kids, a lot of people just simply do not have internet service, period. It's just not a thing. They just cannot afford it. They cannot access it, whatsoever."*- Participant, Zoom, 06.09.23

⇒ *"...And for instance, my grandmother lives in Pemiscot County in a small town called Hayti, and we can't even get online. We have to go outside almost to the road to even get a phone call through. And she's really older, about almost 90. So we have family gatherings there. And some of the younger people, I don't want to be out there for long because I cannot get on anything. Can't get on social media. Can't check your phone. You can barely get a text through. So in that particular county, Pemiscot, it's the rural community, rural county, they do have very limited, to say the least, internet service."*- Participant, Zoom, 06.15.23

⇒ *"You just feel like you're completely at the mercy and even though some of these places aren't really monopolies, it feels like it if you're in a rural area. You just feel totally, like you don't have another option, so you have to pretty much deal with whatever they dish out. And some of it, even though there might be another option, like the other lady was mentioning, the cost is so high that I can't afford it. And I used to live in a larger city and I didn't have these problems when I lived there with my internet. "I don't know. I wonder that, but I think it might be across the board, but I think it would discriminate against people that are in rural areas. Maybe not intentionally, but indirectly, just because those issues are greater if you're in a rural area or a somewhat rural area. I think you're going to run into more of that than you would in the metropolitan area."*- Participant, Zoom, 06.28.23

Moreover, the quality of internet service in rural areas is more often an issue, with deadzones, slower connections, and service disruptions and outages. As such, participants explained how

this limits their ability to work, attend and participate in school, and stay connected with family and friends.

⇒ *"And our county is very rural, a lot of farms, three small towns. Lamar is the largest and it has 4,000 people, but the others are much smaller than that. When COVID came through and everybody went online, the kids suffered big time because there wasn't access to... I mean, we had to get hotspots in parking lots at the high school in order for them to get their assignments and to do their work and things like that."* -Participant, Zoom, 06.15.23

⇒ *"... not to belabor the point, but we do live in a rural area. So on the outskirts in smaller areas, the quality of the internet service, once again, my grandmother, we go to her home and anytime, we know we're going to be down without internet or any type of access for a few hours."* -Participant, Zoom, 06.15.23

⇒ *"Yeah, so part of my job is I push into the schools in our area and work with specifically the juniors and seniors. And it's the same thing, they have internet at school, but for a lot of them, we're so rural, gravel roads, that a lot of them don't even have internet. For part of them it's affordability, they can't afford it. But it causes an issue, especially during COVID, whenever they were doing a lot of alternative at home school, part of those kids had to come in and then download the lessons and then go home and complete. They couldn't just do them as it popped up."*- Participant, Zoom, 06.28.23

Implications

Firstly, many participants cited examples when the poor internet connection impacted the safety and wellbeing of themselves, families and community members.

⇒ *"I know a friend of mine that lives in Eastwood that her brother has major health issues and [inaudible]. She has health issues and it's a very rural area, all without seven, eight miles from [inaudible]....they called all the ambulance and [inaudible] because they did not have any cell service. And you think of [inaudible] and then you realize you can die while I'm waiting on help for them."*- Participant, Eminence, 06.14.23

⇒ *"For me, I have disabilities, I have issues with my oxygen, and when I talk sometimes, some days are good, some days are bad, but I communicate also to St. Louis as well with my medical providers and it's almost impossible to get a good connection and not have to just do the old-fashioned call."*- Participant, Zoom, 06.29.23

Second, several participants shared that they believe the poor internet access and quality in rural areas of Missouri promotes migration and prevents people from remaining and/or moving to rural communities.

⇒ *"A lot of communities are having challenges keeping people within the community. There's not a lot of jobs that support people staying in, especially rural communities. Whereas if they had high-speed or access to high-speed internet, they could do more things online, and their capabilities to have a higher paying job in that smaller community goes up dramatically if there's that internet connection. Without it, people have to leave town because they have to be able to sustain themselves. And so there's been a lot of migration out of smaller communities that could probably have been*

prevented if there was a high-speed internet available to allow those people to stay" -Participant, Zoom, 06.09.23

⇒ *"I don't want to trade living in my rural area in the home I've grown up in for 50 years, in order to get better internet service. I think a lot of times in Missouri, and I know Charles can speak to that as well as living in a rural area, Missouri is full of lots of geography and different terrains. So, when you're talking about the topography of the state, I think sometimes those signals are just not good. Even in the city sometimes they're not even good."* -Participant, Zoom, 05.18.23, 1

Consequently, inaccessible connectivity negatively impacts the rural economy, opportunities for small businesses and modernization as a whole. In addition, Missouri's tourism industry, which provides $13.5 billion economic impact and creates more than 257,000 jobs[17], is critical to many rural communities across Missouri, like Eminence.

⇒ *"I mean, if you want people to move into your town and to, whether that be shop here or live here, you need access to internet. And if you want to drive any kind of a large business. We used to have a few large businesses here in town that have since shut down in the last 10, 15 years. And if we want anything like that again in this day and age, you need some sort of access to high-speed internet at an affordable rate."*-Participant, Zoom, 06.20.23

⇒ *"I think his point about being able to... The whole business aspect, that's another piece that I think is huge, huge, huge. Whether it be Northwest Missouri, Northeast Missouri, Southeast, Southwest doesn't make any... Or in a central part of the state. Being able to work from home or being able to have the internet access, I think, entices people to start small businesses. And I think that's something that we need to definitely have in our state to make our state even more interesting and accessible so that we have people come here who want to live here and be productive."* -Participant, Zoom ,06.15.23

⇒ *"... we have an Airbnb less than a mile from our house and we can't get Verizon to come there because they keep saying, "Well, we have too many people." It's always, "We don't want to get too many people on it." So it hurts our business. And again, as I said, if my son would want to live there, they can't get it. T-Mobile could come to us. So it's like we've got in a little window and we got it for our house, but nobody else can get it because we have the window. That's really frustrating. We have a business and we run that business off Verizon.*-Participant, Eminence, 06.14.23

Low-income Communities

Participants across many of the focus groups are either low-income themselves or work closely with low-income communities. The topic of affordable, accessible, and reliable internet for low-income households was a recurring theme.

⇒ *"Yeah. Okay. Let me say something. Because I know some family find it so difficult to afford internet. It might because of the sometimes financial challenges, and maybe some might not have a proper [inaudible 00:30:01] how to use then internet. And I think in this situation that some people, and I believe because from my own research, I*

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[17] Missouri Division of Tourism (nd). *Industry Portal.* Retrieved from: https://industry.visitmo.com/.

know someone that he can cannot afford the internet. He does not have more knowledge about it. So in such situation, what do you think we should do?" -Participant, Zoom, 05.18.23, 2

⇒ *"I wish that maybe there were more access through the cell phone companies that promoted for lower income, or people who may not know. It's not like someone was mentioning, Barbara was mentioning, spending all that time on the phone with Verizon. However, Verizon had a little... If it were a trend for the cell phone companies to really educate on these services for free, then you'd really be able to make a good decision on what is, or in the community somehow."* -Participant, Zoom, 05.18.23, 2

⇒ *"I work as a parent educator for the Parents as Teachers program for our school district and we have several families who don't have any internet access because there are no affordable options."*- Participant, Zoom, 05.18.23, 2

The intersectionality of being low-income *and* residing in a rural area of Missouri arose frequently during focus group discussions. As highlighted earlier, rural Missourians have more limited access to providers and reliable internet services. With limited providers available, participants commented that they are forced to pay more because there is no competition. As such, ensuring equitable access to broadband in rural areas of Missouri is necessary, and affordability must accompany this improved access.

⇒ *"So it is a barrier for multiple people or some of them can't afford, they're barely able to keep their utilities, pay their rent and buy food and our medicine. So they don't have the money to have a luxury such as... I mean, it seems farfetched to some of us because I know I look at the world through [inaudible 00:49:14] glasses, plus everyone can afford internet. I can't get to a larger area. I go to McDonald to use their wifi. So it needs to be expanded to the rural communities in good quality. Also, to make it a little bit more affordable, especially for children who live in a home and their parents may not be able to afford it or may not see it as really a necessity."* -Participant, Zoom, 06.15.23*

Another critical equity issue here is the link between internet literacy and government assistance. For instance, during and since the COVID-19 pandemic, many government services are accessed online, like unemployment, Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and even job applications. When individuals are internet-illiterate, they are potentially further disadvantaged when they cannot access government assistance.

⇒ *"I'll tell you one thing, I've been trying to access... Which one is it? One of the government's websites, it's either on the WIC or the food stamps or my insurance, I can't remember which one. They want you to download this app to use a QR code, and I'm like, "How do you do a QR code if you're using your phone?" That's been very frustrating. I've spent a week, 30 minutes, an hour at a time, trying to figure out how I'm going to do that. That can be very challenging. I can't imagine these people that have Medicaid, that are 70, 80 years old, understanding that, when here I am 54 and I don't understand it."*- Participant, Zoom, 06.26.23

People with Disabilities

Internet access and quality has specific impacts and implications for the disabled community, as well. Across the 20 focus groups in Missouri, many participants disclosed their disability status and how reliable internet access, or the lack thereof impacts them. Thus, there are essential inclusivity implications for the disabled community in our state.

"Well, and finding a community, being a lot, a lot, a lot of my friends are also housebound and I don't know how many people I've met who are like, I would be dead if I didn't find other... Like my best friend I never would've met, she's also housebound, but she lives on the other side of town, but we're both disabled and neither of us drive."- Participant, Zoom, 05.31.23, 2

⇒ *"So, we use it [internet] for everything. Doctors, for me and for him, and specialists, since I'm severely isolated, and most of my friends are also chronically and mentally ill, that's how we all talk to each other."*- Participant, Zoom, 05.31.23, 2

⇒ *"I didn't know that there was a way that I could advocate for whatever, whether it's... I mean, think it would be a good idea for people with disabilities to have a price break, especially those who are completely immobile because they rely on that. I know my best friend, like I just talked about, she's been a wheelchair, she has CP [cerebral palsy], she has to use her phone and internet for everything. And on top of that, she's a social worker, so she only does telehealth because she can't drive, and she can't afford to have aides 24 hours a day to help her with all that. So, I think it would be nice if the way to advocate would be accessible, I just didn't know that that was a thing."*- Participant, Zoom, 05.31.23, 2

⇒ *"I think it would be easier if there was a chat or a way for people to be taught their personal responsibilities in using the internet and all that comes with it, or a place or a way for people to access questions other than a forum type, especially accessibilities for disability and disabled people that really, or elderly, that really need the generation gap closed for whatever their comfort level is."* -Participant, Zoom, 06.29.23

Black, Indigenous, and People of Color (BIPOC)

Several participants across different focus group discussions highlighted how the BIPOC community is impacted by the lack of affordable, reliable, and consistent internet access. Intersectionality resurfaces here, especially as many BIPOC neighborhoods in Missouri are also often lower income.

⇒ *"Yeah. I live in the Bolivar neighborhood, which is right on the Delmar Divide, if you guys are familiar with that. I'm assuming that some of you may be, some of you may not be. I mean, to be honest with you, where I live and northern of where I live, it's predominantly people of color, Black people and people that are low income. So as a result of redlining and racist housing and infrastructure practices, there are a lot of neighborhoods in areas of St. Louis City, not just limited to internet connection or broadband connection*

"For me, medical and communication with family. I mean, being disabled, I don't get out much. Even though my family may live close and I'm grateful for that, doesn't mean that I can't communicate with them, vice versa, them check in on me."

- Participant, Zoom, 06.29.23

specifically, that are not equitable or they don't have parity to what wealthier, more White, wealthy occupants of sections of the city may have."- Participant, Zoom, 06.15.23

LGBTQIA+

Access to reliable internet service among the LGBTQA+ community was discussed in a couple of focus groups. Specifically, the importance of social connectivity and access to mental health resources among this community was raised.

⇒ *"I was going to bring up something that we haven't talked about yet, and that is for people in my community, like the LGBT community. I was raised in a fairly rural area. I'm from Nixa, Missouri. My sister lives in Marceline, Missouri. So I'm like... For a long, long time, the internet was the only way that I had to connect with people that were in my community or [inaudible 00:41:33] people like me. So I think when you don't have that access, it's incredibly isolating."* - Participant, Zoom, 06.15.23

⇒ *"And I truly think that access to those online communities and spaces is a big reason why teenage or younger, like LGBT, suicide rates are decreasing because there is that access to communities that are also [inaudible 00:41:55] people that are like you. And it's not just you alone in a rural community that does not necessarily align with or like you or respects you and your identity. So I think that is a really hard part and I'm glad that I didn't have to grow up in the world, that we didn't have that internet connection, so I could have access to those communities."*-Participant, Zoom, 06.15.23

Conclusion

Aside from the fact that, today, many jobs require the internet, either to connect by phone and check email, or to operate agricultural businesses and small businesses, the vast majority of Missourians <u>need</u> the internet to access assistive technologies, physical and mental health services, public transportation schedules, language translation services, unemployment benefits, job applications, bills and more. Given this, internet access has become a basic necessity.

Internet access is not only necessary, but it is critical to achieving equity and inclusivity in Missouri's community, economy, and culture. As illustrated in the previous section, historically disadvantaged groups, too, rely on high-quality and affordable internet access, and need it for all the same reasons mentioned in the previous paragraph. Findings from the 20 focus group discussions across Missouri suggest that rural communities, low-income households, BIPOC and disabled people are disproportionately impacted by weak, costly, and unreliable internet access.

As this analysis reveals, many participants across the state of Missouri have lost jobs, or missed out on new professional opportunities because their internet access is unreliable and inconsistent. As a result, families and households suffer, small businesses and large ones are hindered, the tourism sector slows, and the Missourian economy slows. Students fell behind during and after the COVID-19 pandemic because they were unable to access their learning materials at home.

On the contrary, when individuals and communities have access to reliable, high-speed internet, the benefits are innumerable. Communities can connect with and support each other, individuals in need can find the resources they need, children and youth can learn and grow up to become educated, civically-engaged, and impactful members of the Missouri workforce and economy.

These focus groups demonstrate the need for improved internet access across Missouri, particularly for underserved populations. Below, we highlight a few recommendations to address this issue.

Recommendations

The following recommendations are based on the recurring themes that emerged during the 20 focus group discussions across Missouri and include several participants' own requests and suggestions. These three recommendations are essential to ensuring more equitable access to high-quality broadband connectivity in Missouri.

- **Prioritize internet access in rural communities in Missouri.**
Internet access varies widely across the state of Missouri. Rural communities have disproportionately limited access, with fewer providers to choose from, physical infrastructure barriers, and less reliable and consistent coverage and connectivity. Furthermore, internet costs can be a key barrier to rural Missourians' internet access, and many participants were confronted with financial trade-offs to maintain internet connectivity in their homes.

With rural hospitals closing, constantly evolving workforce and training needs, increasing tourism, and perhaps most importantly, climate change and more frequent natural disasters,[18] rural areas of Missouri need better and more affordable access to reliable broadband.

⇒ *"One other thing, if I could mention is [participant name] mentioned something about during the tornado. And I personally, there should be more access when there is a natural disaster. In Missouri, we worry about tornadoes. So when there is a tornado, where do people go if they cannot access it through their phone or something like that? It's really essential in those times to be able to connect us with areas of the world that are not harmed, or family members and things like that." -Participant, Zoom, 05.18.23, 2*

We recommend engaging with internet providers, and exploring public-private partnerships to devise need-based and context-specific approaches to communal hot spots, as well as emergency-based connectivity support services in the hardest-to-reach communities. While public wifi is not a replacement for home internet connectivity, it can be a useful resource for those needing connectivity for work, education, and healthcare, as these sectors increasingly utilize online platforms to deliver their services. We also need to ensure that communities and their residents know where they can access free internet in Missouri. The University of Missouri Broadband Resource Rail offers this Digital Asset Map, for example.

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[18] Missouri Business Alert (14 April, 2023). *"Billion-dollar' natural disasters are on the rise in Missouri"* Retrieved from: https://www.missouribusinessalert.com/economy/billion-dollar-natural-disasters-are-on-the-rise-in-missouri/article_2b9b37e8-da4f-11ed-b5e3-9b9cdaa6c4a2.html

Throughout the process, include rural communities and their leaders, as they have creative ideas and practical solutions to many of these challenges. We recommend working in partnership with organizations, internet providers, universities, and other key stakeholders, with representation from communities and disadvantaged groups. [Studies](#) show that participatory approaches to tackling community-based challenges can be highly effective. Thus, we recommend creating and working through community-based work groups and task teams can be a cost-effective, action-oriented and effective approach to addressing broadband access and quality issues in Missouri.

- **Ensure internet assistance programs and benefits reach those in need.**

Many participants visit public spaces and commercial establishments when they need to access the internet, as illustrated in this report. Participants noted the resources specifically available at the library, including device support, printing services, and computer access, among others.

Furthermore, numerous participants are benefiting from the Affordable Connectivity Program and Lifeline, and other internet assistance resources. Yet, even more were unaware that these resources existed, or were unsure how to access the benefits. Additionally, we recommend updating eligibility requirements for internet assistance programs to expand eligibility and participation, based on recent economic events, like increased inflation.

⇒ *"We would give them referrals to things like affordable connectivity or different resources that might help them if they were facing various challenges, financial or otherwise related to the pandemic. And it was amazing to me how many people didn't even know what was available to them. To me it was very under advertised or whatever. There were a lot of people that really needed those services that had not ever, they didn't even know that they could get a discount or any of that kind of stuff."* - Participant, Zoom, 06.28.23

We recommend collating and sharing the available broadband support resources and eligibility with partners, like food banks, nonprofit organizations, community groups, and local media to ensure information, updates, and opportunities are widely disseminated and reaching the right audiences.

We also recommend partnering with public places, like the library, recreational and community centers, and local, educational organizations to better reach those in need of free or affordable access to broadband and/or devices.

- **Increase community knowledge through education and training programs to strengthen internet literacy and address safety concerns for vulnerable populations.**

Internet literacy, and by association, concerns for safety and security with internet use were two central findings in this focus group study. Older people, parents, especially from low-income households, and children want and need more support to safely access and benefit from the countless opportunities that come with internet connectivity.

⇒ *"...I'd like to know more about my router and my modem, just the basics of that and how to set up better security with my wifi and stuff like that." "Yeah, elderly, they don't know how to text, and they get frustrated and stuff like that. A lot of the elderly, my grandma especially, she would get frustrated and she would just get frustrated along with my dad. They didn't have the patience for it, so they would say to hell with it." "... the older generation that I think that they kind of get a little frustrated with it because it's hard to keep up with."*- Participant, Zoom, 06.29.23

⇒ *"Because I can tell her, get on Google Classroom so I can see your work. But most parents don't know how to do that or, "What?" So if the school could offer some type of training, that would be very beneficial."*- Participant, Kennett, 06.22.23, 2

⇒ *"I've shied away from internet completely right now, unless I got to, I use it to just kind of keep up with it. I don't mess with it much anymore. I just... Because I'm not up on protecting myself. Now, if I can learn, and go somewhere where I can learn how to protect myself, fine. But just grabbing something, and looking at a video, my experience with them videos is they can come in there and hack your phone..."*- Participant, Zoom, 06.26.23

In partnership with the organizations mentioned in Recommendation #2, develop new, and strengthen existing internet literacy training and resources. Parents, caregivers, and older residents in Missouri shared many requests for more resources and support with internet safety and security, especially for vulnerable populations, like children and older people:

⇒ *"Okay. I want to ask a question. Is there any way that we can maybe have a symposium in order to train maybe the children of, let me say from five to 15, years in order to have a proper knowledge of how to use the internet? Because I believe those are the next generation that will rule the society, and if they have an intellectual knowledge or a pre-knowledge about the internet design, I believe everything will be easy. So is there anyway that we can have a symposium for these children, maybe provide a particular place and create awareness for them to access?"*- Participant, Zoom, 05.18.23, 2

⇒ *"Yes. If I may piggyback off of that, my mother is older and she, upon understanding that you can play games, there have been some marketing things put out there. If there were some sort of, I don't know, a community mentor for internet access, and for let's say just seniors even, somebody who they could call or something. Also, I want to mention younger children who... Or not younger, but teens who may know a little bit more than their parents or their, let's say older parents. If there were some kind of liaison for that as well. Because a lot of times the kids will come home and know how to get on the wifi, and the parents won't know how to shield them from that, or all those things. If there were some sort of person to mentor with that as well." – Participant, Zoom, 05.18.23, 2*

⇒ *"I feel like there is very little training as far as internet safety, or a lot of times I think about older citizens. Most people are accessing internet on their phone. So their phone provider handing them a phone, but there's no training on that initial setup. So if they don't have somebody in their family that teaches them how to access information, even downloading apps and getting connected, I think that's something that is lacking, that*

population. But I think any sort of programming, any sort of training that would focus on even safety for parents on how to set up controls, what is appropriate, what are risks, would be beneficial. Because as far as I know, there's nothing like that in the Bootheel."- Participant, Zoom, 06.20.23

To maximize the investments in improved, and more equitable access to broadband, and ensure Missourians are safely using the internet, internet literacy must be strengthened.

3.6 2023 Digital Demonstration Project Grant Program

OBD launched the 2023 Digital Demonstration Projects Grant Program (DDPGP) in support of the state's planning efforts under the Digital Equity Act. Missouri designated $250,000 from the state's share of the State Digital Equity Planning Grant to fund this program. This program was administered as a competitive grant program and provided 10 community serving institutions in Missouri with up to $25,000, via reimbursement, to explore the efficacy of two specific digital inclusion interventions on bridging the digital divide. The funded projects were primarily intended to help Missourians tackle the affordability barrier to internet connectivity and/or bridge digital skills gap. In support of that, projects either promoted and enrolled eligible Missourians in the ACP (4) or trained and deployed digital navigators throughout the state to conduct skills trainings (6). Some performed a combination of the two. The projects funded were selected to reflect the full demographic and geographic diversity of the State of Missouri.

Entity Name	Partnering Organization	Region	Eligible Activity	Covered Populations	Award Amount
KC Digital Drive	n/a	Statewide	Digital Navigator Training and Deployment Program	Individuals who live in covered households, Aging individuals, Incarcerated individuals (non-federal facilities), Veterans, Individuals with disabilities, Individuals with a language barrier, Racial/ethnic minority groups, Rural residents	$25,000
City of Kansas City	Essential Families	Kansas City	Affordable Connectivity Program Promotion/Registration Program	Individuals who live in covered households, Aging individuals, Veterans, Individuals with disabilities, Individuals with a language barrier, Racial/ethnic minority groups	$25,000
The Curators of the University of Missouri	MOREnet	Statewide	Digital Navigator Training and Deployment Program	Aging individuals, Individuals with disabilities, Rural residents, Individuals who live in covered households	$25,000
The Curators of the University of Missouri	n/a	North	Digital Navigator Training and Deployment Program	Individuals who live in covered households, Aging individuals, Veterans, Individuals with disabilities, Racial/ethnic minority groups, Rural residents	$25,000
aSTEAM Village Inc.	University of Missouri	Kansas City	Digital Navigator Training and Deployment Program	Individuals who live in covered households, Individuals with disabilities, Racial/ethnic minority groups, Aging individuals, Veterans, Rural residents	$25,000
Concordance	n/a	St. Louis	Digital Navigator Training and Deployment Program	Racial/ethnic minority groups, Incarcerated individuals (non-federal facilities), Individuals who live in covered households	$25,000
Jefferson Franklin Community Action Corporation	n/a	St. Louis	Affordable Connectivity Program Promotion/Registration Program	Individuals who live in covered households, Aging individuals, Veterans, Individuals with disabilities, Individuals with a language barrier, Racial/ethnic minority groups, Rural residents, Incarcerated individuals (non-federal facilities)	$25,000
Boonslick Regional Planning Commission	n/a	North	Digital Navigator Training and Deployment Program	Aging individuals, Individuals with disabilities, Veterans, Rural residents	$25,000
Meramec Community Enhancement Corporation	Meramec Regional Planning Commission	Central	Affordable Connectivity Program Promotion/Registration Program	Aging individuals, Rural residents, Individuals who live in covered households	$25,000
Ozarks Area Community Action Corporation	n/a	Southwest	Affordable Connectivity Program Promotion/Registration Program	Aging individuals, Veterans, Individuals with disabilities, Racial/ethnic minority groups, Rural residents, Individuals who live in covered households, Individuals with a language barrier	$25,000

Figure 1: Projects funded via the 2023 Digital Demonstration Projects Grant Program

The State of Missouri has had little experience directly administering digital inclusion focused programming. OBD is also motivated by DED's Best in the Midwest Initiative, which aims for all divisions within DED commit to using data to drive consumer focused results. The DDPGP represents a genuine effort by OBD to gather that data and gain a more thorough understanding of the most effective programming and deployment strategies to bridge the digital divide in Missouri. In addition to informing the development of future digital inclusion programming, the results of the DDPGP were also instrumental in determining the State's Digital Opportunity Plan's measurable objectives.

The DDPGP period of performance ran from April 3, 2023, to August 31, 2023. Subrecipients were required to attend monthly desk monitoring visits with an OBD team member. Subrecipients were also asked to submit progress reports updating OBD on the status of their projects at the 3-month point and a final report upon conclusion of the period of performance. The results of the DDPGP, as reported at the 3-Month Progress Report are shown in the figures below.
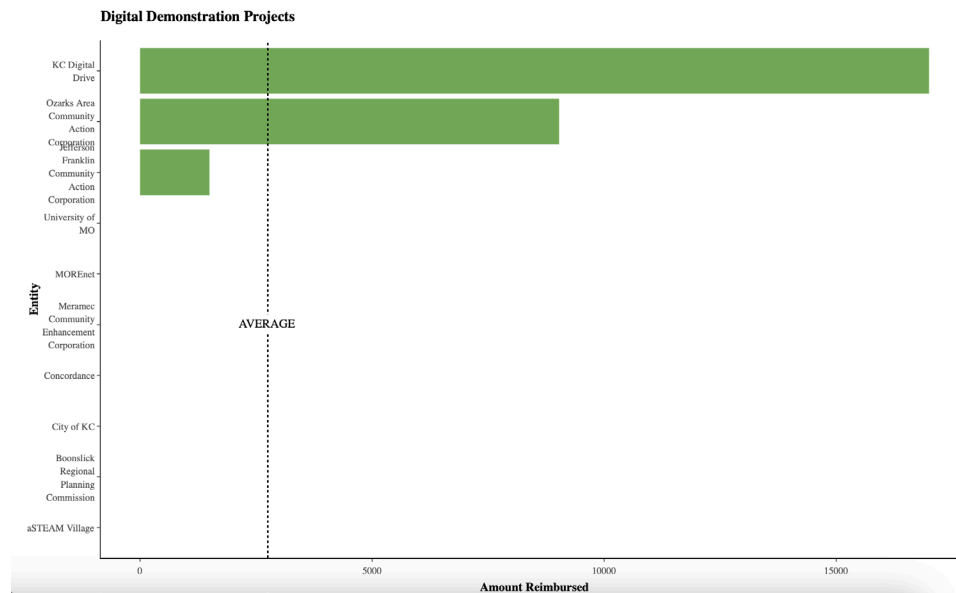
3-month Progress Report Results

Figure 2: Dollar amount requested via reimbursement by DDPGP subrecipients at 3-month point of period of performance.

Several factors contributed to the rather low expenditure of grant funds amongst grant subrecipients at the 3-month point. Causes cited include: low frequency of scheduled events in first 3 months, lower than anticipated costs associated with events, grant subrecipient's internal processes complicating the reimbursement process, and the inherent difficulties of working with prison populations.

As projects neared completion, they began to more consistently utilize the reimbursement process. In total grant subrecipients utilized 87% of the $250,000 dedicated to the program. Full grant expenditure did not correlate to the highest performing projects.

Figure 3: Number of ACP sign-ups by individual DDP grant subrecipient at 3-month point of period of performance.

Grant subrecipients who engaged in ACP Promotion & Enrollment experienced varying levels of success during the first 3-months of the program. Two of the three most successful programs were collaborations between trusted local partners and larger institutional organizations that provided additional matching funds to supplement the grant. Challenges reported include, a lack of initial awareness amongst staff, existing high registration rates amongst local populations, lack of eligibility documents amongst potential beneficiaries, and availability of ACP participating ISPs.

Figure 4: Number of ACP sign-ups by individual DDP grant subrecipient at end of period of performance.

ACP registrations did not increase as expected over the final month of the period of performance. Individual grant subrecipients attribute this to the short timeline between submission of the 3-month and final progress report. One notable exception was the Ozarks Area Community Action Corporation. Grant subrecipients did however report difficulty tracking enrollments given the inherent delay in eligibility certification, as well as the need for beneficiaries to individually contact ISPs to receive their benefits. While the numbers presented represent a minimum number of registrations, the potential exists for the actual number to be higher. Grant subrecipients also report existing high enrollment rates amongst their local populations, limiting total new enrollments.

Subrecipients experienced the highest levels of success when training their staff to assist eligible Missourians with registering for the ACP. The only limiting factor was the number of staff willing and/or able to participate in the trainings.

Figure 5: Number of staff trained to assist eligible Missourians with enrollment in the ACP at the end of period of performance.

Few additional staff were trained in the latter portion of the period of performance. Once trained staff are capable of providing the service to ACP eligible Missourians, additional trainings become redundant.
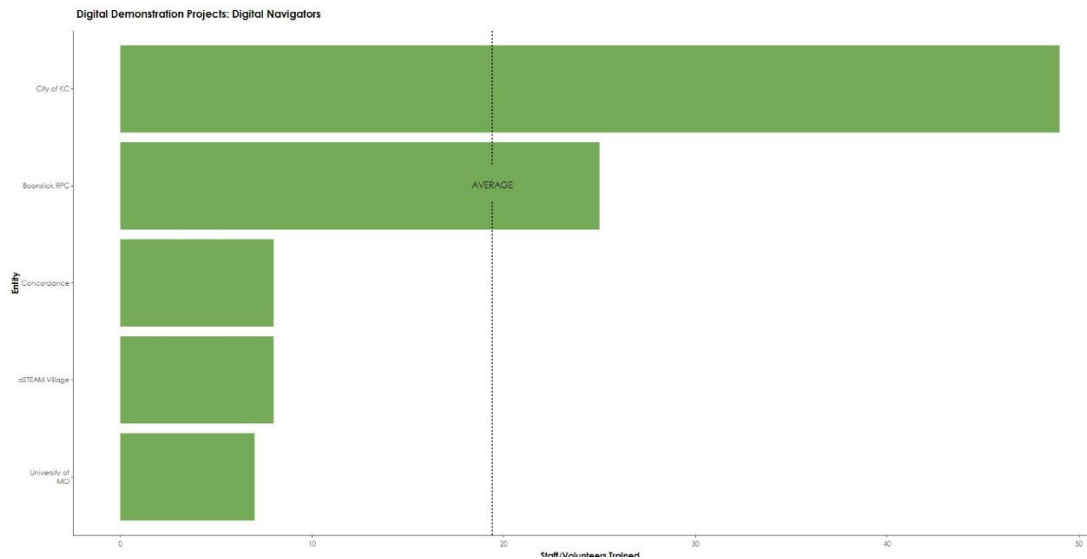
Figure 6: Number of staff/volunteers trained as digital navigators at the end of the period of performance.

Digital Navigators are the individuals tasked with delivering critical digital skills training to community members in need. A higher pool of digital navigators represents greater provision of digital skill instruction in Missouri. Projects that provided compensation to navigators experienced greater success than those which were dependent upon volunteers. Subrecipients also reported skill level and confidence of the individual digital navigators as impacting program efficacy.

Digital navigator trainings that were scheduled for the month of August continued as expected. The information reported matched predictions as expressed in the subrecipients' original application.

Figure 7: Total number of training sessions offered as reported at end of performance period.

The data above is reflective of the same trends expressed regarding the number of staff/volunteers trained to be digital navigators. The total number of sessions was primarily dependent on the total number of available navigators. One notable exception reported by one organization was a lack of interest by locals; despite scheduling a digital skills training event, if no member of the public registered to attend, the organization canceled the event. Another trend reflected in discussion with subrecipients centered on the insufficient period of performance to schedule enough events to exhaust grant funds.

While the total number of sessions increased in relation to the increased number of digital navigators, results did not meet expectations. As with the first progress report, grant recipients continued to report low participation rates amongst the population and future projects must consider how to increase perceived value and in turn participation in digital skills trainings amongst Missourians.

Conclusion

The DDPGP provided OBD with useful data in terms of both developing and deploying digitally inclusive programming. The information provided will ensure that the funding provided by the DECGP is distributed effectively and in support of establishing a future focused, sustainable digital inclusion ecosystem in Missouri. The funded projects experienced varying levels of success, which was dependent on several factors including location, personnel, familiarity with administering grants, and experience with the specific type of project the entity hosted.

The key takeaways from the DDPGP are:

- The application for this program was open from February 1, 2023-February 28, 2023, and many applicants indicated this was an insufficient amount of time. OBD must consider a 30+ day application window for future programming.
- The funding available for digital inclusion work is limited; to maximize impact per dollar, OBD must incentivize cooperation amongst the various stakeholders in the field.
- Organizations that provided matching funds or contributed their own resources, experienced more success on average than those that were solely reliant on the OBD grant.
- Each covered population presents their own difficulties; however, the legal, privacy, and security concerns associated with prison populations indicate that the most viable pathways to serve this covered population will be relying on partner organizations that have a demonstrated history of success and existing connections with the Missouri Department of Corrections (DOC).
- Elderly Missourians were amongst the most active participants/beneficiaries of the DDPGP; however, their comfort level with digital skills was lower on average than other covered populations.
- Compensation, even non-guaranteed (raffles) and non-monetary (food and/or drinks) compensation, is a strong motivator in attracting and recruiting digital navigators, as well as members of the public to promotional events.
- Radio ads were very effective at recruitment in large rural counties.
- The period of performance should be 6+ months to allow grantees to effectively plan, deploy, and evaluate their programs.
- Competitive grants may not be the most effective method to distribute this type of funding. OBD should explore alternatives methods to deploy DEA funds.
- The largest organizations do not necessarily have the best results; OBD must develop effective methods to promote accountability amongst grant subrecipients.

- Given the condensed time frame of the program, future programming should consider requiring updates from grantees at lower frequencies. Grantees submitted their 3 month and final progress within 40 business days. Future programming should require at least quarterly reporting.
- Site visits can help ensure accountability particularly in regions geographically distant from OBD.
- OBD originally intended to fund a device distribution program, however no organization applied to host this type of program. OBD must explore how to effectively design programming to increase the supply of affordable devices available to Missourians.
- School events proved amongst the most effective sites for ACP promotions and registration. Future programming periods of performance should overlap with the school year to effectively target families with school age children.

OBD believes that by integrating the lessons learned from the DDPGP, Missouri is better placed to most effectively deploy the funding provided by the DECGP.

3.7 Major Conclusions

Over the course of 2022 and 2023 OBD engaged in extensive public outreach and research aimed at developing a more thorough understanding of the needs of Missouri's covered populations. Additionally, the Digital Demonstration Projects Grant Program provided practical experience and data regarding the administration of programming necessary to bridge the digital divide. These observations in conjunction with the funding provided by the DECGP will guide the implementation of the Digital Opportunity Plan. The major conclusions of that work are summarized by covered population[19] below:

- Covered Households:
  - o The primary barrier facing this population stems from their lack of sufficient disposable income necessary to fully engage with the internet. This population's lack of resources ultimately results in lower-than-average access, as compared to other groups, to both devices (78% vs 88%) and internet services (78% vs 87%). Covered households lack the devices and/or internet subscription plan necessary to work from home and are more reliant on publicly available internet in order to engage with online services. Covered households were unable pay the same price as other covered populations for similar services. Covered households are forced to juggle competing priorities like their basic necessities (i.e., food and shelter) and access to the internet, with the latter oftentimes being sacrificed. When serving this population OBD will primarily develop programming that aims to reduce or eliminate the high cost associated with regular and effective internet engagement. In doing so, OBD expects to open further opportunities to this population that have previous been inaccessible.

- Aging individuals:
  - o Individuals aged 60 and above do not suffer as acutely from the same barriers to internet engagement as other covered populations. This population has higher than average access to internet subscription plans (91% vs 87%) and personal computers (90% vs 88%) and have expressed a willingness/capacity to pay higher-than-average prices for certain services (e.g., purchasing/repairing devices). This population's primary barrier is their lack of specific digital skills, in particular their ability to engage online in ways that maintain their privacy and data security. Paradoxically, they are the population least likely to engage in online training (27% vs 44%). They also suffer from a trust barrier when attempting to engage online. This is justified given the 84% increase in online fraud targeting older Americans.[20] Given their higher reliance on the internet to access government or health services it is critical that they receive the training necessary to permit safe engagement

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[19] "Covered populations" is defined in 47 U.S.C. § 1721(8). Also see § 1721 for definitions within the covered populations.

[20] CBS News (Oct. 6, 2023). *FBI warns of rising elder fraud crime rates as scammers steal billions in savings each year*. Retrieved from: https://www.cbsnews.com/news/fbi-warns-elder-fraud-crime-rates-rising-scammers-steal-billions-each-year/

online. To adequately address the needs of this population OBD must work with partners trusted by this population to develop in-person training opportunities that will specifically provide instruction in safe online browsing as well as the means to access the government and health applications unique to their needs.

- Incarcerated individuals:
  - The survey and focus group study were unable to interact directly with incarcerated individuals. The DDPGG also had limited interactions as compared to other populations. OBD will continue to work directly with DOC to measure and address the digital inclusion needs off incarcerated individuals. However, formerly incarcerated individuals reported their primary use of the internet centered on meeting their educational needs. This is reflective of the impact that being removed from the general populace, and the corresponding academic opportunities, entail. Engagement with Department of Corrections officials have also revealed concerns related to institutional security and privacy concerns stemming from increasing internet access for incarcerated individuals. The importance of educational opportunities to open occupational pathways for this population is critical to reducing recidivism. Formerly incarcerated people also report higher than average (62% vs 54%) use of the internet to "run my business," indicating the importance of self-employment in the face of reduced conventional employment prospects. Seventy five percent of respondents also indicate their reliance on the internet to access government or health services, including meeting their post-incarceration responsibilities (e.g., parole appointments). To meet the needs of this population and the concerns of their stewards, OBD must develop educational opportunities that are accessible within correctional facilities that do not compromise institutional security and support the development of resources that reduce recidivism by enabling them to advance socially and economically post-release.

- Veterans:
  - The veteran population in Missouri largely overlaps with the aging individuals' population. Missouri veterans are largely retirees and report a willingness to a pay higher-than-average price for Internet access and use. Their primary barrier was related to trust in online sources and security when browsing with at least 67% of all respondents reporting concerns with personal information security, computer viruses and website tracking. Veterans do report a higher than average (46% vs 44%) willingness to engage with online training. To meet this population's needs, OBD must develop training in the key skills necessary for this group's daily life; however, unlike aging individuals, online training represents a more viable pathway to deliver the necessary instruction.

- Individuals with disabilities:

- Individuals with disabilities report a multitude of barriers to full engagement with the internet including, lack of economic resources (25% discrepancy between average respondent in willingness/ability to pay), inability to access training despite higher-than-average interest in obtaining it, and lack of trusted online resources. Additionally, individuals are significantly more reliant on the internet to access government and health resources. In spite of this OBD outreach has shown that there is a severe lack of resources available to help those individuals overcome those barriers. OBD's approach to meeting the needs of this covered population must encompass all aspects of digital equity—internet access, affordability, and device availability—while also ensuring those resources developed are specifically suited to the needs of the differing disabilities represented within the population.

- Racial and/or ethnic minorities:
  - Missouri's racial and ethnic minorities represent a wide spectrum of individuals whose barriers will differ depending on their circumstances. The total responses collected in the survey, focus groups, and DDPGP did not accurately represent ethnic/racial minorities populations as a percentage of the state's population. This results in an incomplete picture of this population's needs and OBD will continue to investigate methods to more accurately ascertain and address the needs of this large group. The results acquired from the study indicate cost, adequate access to opportunity, and institutional trust to be amongst the primary barriers to digital equity. This population reports higher than average low-income status (32% vs 28%) and distrust in governmental bodies as a result of historic practices (e.g., digital redlining). This is also reflected in the higher-than-average concern with being surveilled by outside actors while online. To engage with this population effectively OBD must engage in concerted efforts to ensure this community is aware of and participating in any opportunities for which they are eligible. Targeted programming must be conducted by trusted local partner organizations, seek to reduce/eliminate the cost associated with engaging online, and ameliorate the community's concerns of discrimination and surveillance.

- Individuals who primarily reside in a rural area:
  - As a result of demographic overlap individuals who primarily reside in rural areas suffer from many of the same barriers as Aging individuals and Veterans, with the added detrimental effects associated with low internet availability. Similar to those populations this group is primarily concerned with online security and privacy concerns. Additionally, rural areas suffer from a distinct lack of digital equity practitioners capable of delivering programming to eliminate those barriers that do exist. Access to devices and affordability was not a major concern for this population, although this may stem from their inability to access the internet at all. The needs of this

population will primarily be met by the BEAD program. OBD will, however, also seek to deploy DEA-supported programming, primarily instruction in online security, contemporaneously with broadband infrastructure deployment in order to forestall the development of the barriers present in other populations with better connectivity.

- Individuals with a language barrier
  - Similar to the racial/ethnic minority populations, and likely due to significant population overlap, this group was also underrepresented in the studies conducted. This population also disproportionately suffers from a lack of the economic resources available to other populations, often resulting in a general inability to access the internet and the inherent benefits of the digital economy. Further compounding those difficulties is a severe lack of materials in their native language or at a sufficient level for learners to comprehend. OBD will develop programming aimed at overcoming the affordability barrier. In addition to complying with Federal requirements regarding Access for Persons with Limited English Proficiency, OBD will make every effort to ensure that the programming, and corresponding promotional material, developed is accessible for English language learners and those with low levels of literacy. OBD will also continue to conduct outreach to remedy this population's initial underrepresentation in the studies, thereby ensuring their needs are met.

Chapter 4:
Implementation

Missouri Department of
Economic Development

4 Implementation, Coordination, and Outreach Strategy

4.1 *Guiding Principles*

OBD has determined five guiding principles to ensure optimal implementation of the solutions proposed in this plan. The five principles are:

1. All Missourians
2. Meet them where they are
3. Let locals lead
4. Collaboration
5. Let's do more

The goal of the *Connecting All Missourians* outreach tours was to listen to broadband stakeholders about the challenges and barriers faced across the state and inform them about OBD's efforts to serve *all* unserved and underserved locations and ensure *every* Missourian is able to fully engage in the digital economy. One of the most common refrains espoused by rural Missourians during the *Connecting All Missourians* outreach tour reflected the general belief that the connectivity needs of rural communities are often ignored in favor of more urban locations. Likewise, urban communities felt the state has historically overprioritized the needs of rural residents. OBD will not differentiate between urban and rural communities in terms of priority for digitally inclusive service provisions. All IIJA funded activities will prioritize need, not geography, and OBD is committed to meeting the needs of *all Missourians*.

The second principle is rooted in the idea that citizens in need should not be further burdened by inaccessible services. Travel and travel-related expenses can be a serious impediment to social and economic mobility. OBD strives to support programming that operates in those communities where services are most needed—*meet them where they are*. Additionally, any outreach and promotion related to the OBD programming will employ targeted promotional strategies to serve all covered populations.

Let locals lead is built upon the idea that the members of a specific community are best equipped, in knowledge, capacity, and proximity to design programming to serve that community. When determining digitally inclusive programming to support, OBD will incentivize and prioritize proposals and applications from organizations based in, and run by members of, the community being served. To the greatest extent possible OBD will pursue a bottom-up, asset-based approach with the appropriate deference paid to smaller organizations and what they bring to the table, with these organizations receiving meaningful funding amounts so they can make an impact. OBD hopes to build a large pool of trusted local partners—people who know their communities best—that will form the core of local efforts moving forward. In support of this, OBD has and will continue to encourage activities like: the development of local coalitions for digital inclusion; the designation of "community coordinators" who will oversee local digital inclusion activities; the development of free use digital literacy curricula; as well as the cultivation of locally based digital navigators from the existing population who have a vested

interest in the success of their communities (e.g., students, older/retired residents, and/or stay at home parents).

The scale of work needed to bridge the digital divide in Missouri makes collaboration between digital equity practitioners indispensable to effective digital inclusion programming. Civil and social investments have historically been defined by scarcity of resources, both human and material. This limits the impact of government and civil society interventions. Scarcity results in increased competition over a limited and constantly shrinking pool of resources. This conflict is detrimental to the ultimate goal of equal access to digital and economic opportunities for all Missourians. In order to counteract this problem, OBD will actively incentivize cooperation between digital inclusion practitioners throughout Missouri. OBD believes that by incentivizing cooperation amongst digital equity practitioners, particularly amongst those with asymmetric service delivery capabilities, OBD will decrease conflict, enhance capacity, and deliver better services for Missourians.

The final guiding principle, *Let's do more*, is rooted in DED's desire to be the Best in the Midwest. Missouri aspires to set the standard across all economic and customer service performance metrics when compared with Midwest peer states. OBD is fully committed to this goal. As stated in this fifth guiding principle, OBD will work to attain and eventually surpass the goals set forth in this plan. The goals and objectives set forth are considered to be the minimum standard for equal access to digital opportunities in Missouri and will not limit OBD's work, in the event these goals are attained. True digital inclusion cannot be measured by static goals and thus OBD will work continuously to empower all Missourians to realize their full potential within the digital economy.

4.2 Implementation Strategy

There is no single approach to ensure the attainment of digital equity. OBD must deploy multiple strategies with the support of institutional partners and local stakeholders to be successful. In recognition of these two facts, OBD will deploy a multi-track approach to utilize the funding provided by DEA. This will involve: 1) an annual round of competitive grant programs, for the life of DEA, aimed at the community serving institutions that will provide critical services to Missouri's covered populations; 2) a multiyear partnership agreement between one or more partners with a statewide presence; and 3) cultivating and leveraging partnerships to enhance the total impact of all OBD-supported activities. OBD recognizes that successfully bridging the digital divide will require the support of government, the public, nonprofits, and the private sector. OBD will willingly partner with any qualified entity that is data/results driven and fully committed to connecting all Missourians.

Strategy #1 Community-Based Competitive Grants

The competitive grant programs will mirror DED's traditional approach to service delivery. OBD will utilize the knowledge, experience, and expertise developed from the DDPGP to refine future programming. This approach is best suited to increasing the capacity of smaller sized organizations that may only operate within individual communities. By awarding opportunities to community specific organizations, OBD hopes to increase the service and operating capacity of those groups. OBD estimates that the majority of potential applicants to these programs will be situated within urban locations.

Competitive grant programs will realize the first four guiding principles established by OBD. These programs will allow OBD to directly fund locally led small to medium sized community serving institutions. This will increase the total availability of digitally inclusive services. OBD will make every effort to fund programs that represent the full scope of Missouri's geographic and demographic diversity. OBD will continue the practice of prioritizing and incentivizing, via program guidelines, collaboration between local community serving institutions in order to expand program reach.

OBD estimates a final designation of 30-45% of Missouri's share of DECGP funding for competitive grant programs. In response to data gathered from the DDPGP and feedback provided by relevant stakeholders, OBD will strive to make the average grant awarded via the competitive process sufficient to conduct one year's activities. These community-based competitive grant programs will recur until the exhaustion of designated funding.

Strategy #2 Statewide Partnership Competitive Grants

The statewide approach represents a novel attempt to solve a historically unrecognized problem. Upon receipt of Missouri's share of DECGP funding, OBD will begin the process of identifying partners with a significant presence across Missouri that would be capable of managing a statewide digital inclusion program. The subrecipients would be contracted with to operate their programs for multiple years. This approach is designed to ensure that there are digital inclusion resources available for members of the public in all regions of the state for the life of DEA.

The selection of multiyear institutional partners will primarily realize this plan's first and fourth guiding principles. Large institutional partners possess the size and capacity to conduct large-scale programming throughout the state. These types of multi-region interventions oftentimes exceed the financial and operational capacity of the smaller organizations expected to take part in the competitive grant programs. This presence will ensure that despite the limited funding available via the DEA, relative to BEAD, all 114 counties in Missouri have opportunities to receive digital inclusion programming.

OBD estimates a final designation of between 55-70% of Missouri's share of DECGP funding to statewide contracts, with the remainder being allocated in totality to the annual competitive grant programs.

Strategy #3 Cultivate and Leverage Partnerships

In order to ensure the timely accomplishment of the goals set forth in this plan, the solutions proposed will be developed in conjunction with, and in consideration of, the needs of the residents where a solution is to be implemented. The primary focus of OBD's digitally inclusive programming is establishing funding mechanisms and an operating framework that is effective, locally designed and led, and sustainable beyond the availability of funding provided by IIJA.

OBD will seek to implement cooperative agreements with all willing partners. This includes both those entities that directly receive DEA funding and that who don't. OBD will utilize the outreach networks of all willing partners, both public and private (e.g., Missouri Department of Elementary and Secondary Education, Missouri Department of Corrections, Missouri One Start, Pew, etc.) to help further the reach of all DEA outreach efforts. OBD will also continue to coordinate the efforts of Missouri-based organizations that conduct digital inclusion activities. OBD has experience in this field, coordinating activities between organizations that have received ACP Outreach Award Grants. By extending support to these organizations regardless of affiliation, OBD hopes to contribute to the establishment of a long term sustainable digital equity operating framework for Missouri. This network, composed of community anchor institutions, elected officials, digital inclusion alliances, and members of the public, will form the core service delivery group for the life of DEA.

OBD will also actively encourage the creation of local coalitions that are neutral and impartial in representing the broadest needs of their local populace. These coalitions will promote effective service delivery as well as accountability to the communities they serve.

Examples of essential partnerships include:

Regional and Statewide Partners
- Regional Planning Commissions (RPCs): The RPCs have been an essential partner since the beginning of the planning phase and will continue to be during implementation. RPCs are trusted partners in their communities and have the resources to be able to reach many populations throughout their region.
- University of Missouri Extension: MU Extension has an office in every county in the state of Missouri. They have been a partner since the beginning of the planning phase, by assisting with the FCC Broadband Map Challenge Process and sharing news from OBD

with their constituents. MU Extension is also piloting their own digital navigator program. This program will allow for trusted community members and leaders to become digital navigators and assist populations in their county in gaining the necessary skills to engage in the digital economy. MU Extension has expressed a potential interest in applying for the multiyear statewide grants aimed at reaching the most rural areas of the state. With their statewide presence and community support earned through years of administering 4-H programming, MU Extension is going to critical to digital skills curricula development and instruction outside of Missouri's major metro areas.

- K-12 schools and institutions of higher learning: Being able to partner with schools across the state allows for OBD to reach Missouri's youth and young adult population. It is also a way to leverage promotion of the ACP and other digital inclusion resources available to families that may not be aware otherwise.

- Career and Technical Centers: Career Centers are essential to providing hands-on training and classroom curriculum to train the future workforce needed to succeed with broadband deployment and digital opportunities. OBD will utilize the existing relationships between local career centers and the business community to identify the digital/technical skills most in demand and develop/deploy training programming that will produce workforce ready graduates.

- PCs for People: A national nonprofit enterprise working to provide low-cost, quality devices and internet into the homes of low-income individuals and families. This nonprofit will be key to succeeding with our device goals and objectives PCs for People is the largest and most well-known low/no-cost refurbisher in the state. During the planning phase OBD toured a PCs for People facility and received a detailed description of their processes. Missouri is one of only two states with two dedicated PCs for People offices, serving the Kansas City and St. Louis metro areas, creating a wide footprint for dissemination of refurbished devices. OBD will recommend that government entities with device surpluses donate to PCs for People and would like to make recycled devices available across Missouri.

- National Digital Inclusion Alliance (NDIA): A national nonprofit program that brings together other nonprofits, organizations, policymakers and academics to advocate for access to broadband and ending the digital divide. Having a national organization that allows for collaboration across states on similar issues will help every state succeed by sharing best practices and real-world examples. OBD will continue to utilize their network and various platforms to determine best practices and otherwise collaborate with other states in the pursuit of Missouri's goals.

- Show Me Coalition: Missouri coalition that will monitor issues in communities and work to develop solutions, promote oversight and accountability of public funds for broadband, advise OBD on deployment and oversight, work with state legislators to identify and evaluate broadband legislation, and identify issues with federal programs while advocating for improvements. This coalition is funded by Pew and the Benton Institute. The Benton Institute has selected the Show Me Coalition for participation to participate in the Broadband Breakthrough program which will provide 10 counties with 4 months of broadband technical assistance.

- Public Libraries: Public libraries are amongst the most well-trusted organizations within the state and have been engaging in digital equity work for several decades at this point. Libraries across the state are likely to apply for funding via various programs. As demonstrated during the COVID-19 pandemic libraries are well placed to deliver digital skills instruction and device distribution. Additionally, given their statewide presence OBD expects public libraries to play a key role in providing digitally inclusive programming in rural communities. Libraries are an excellent conduit for providing information about OBD activities to members of the public.

Covered Population Partners: OBD will seek partners with existing relationships with covered populations that can be leveraged to help obtain and advance measurable objectives from this plan.

- Community Action Agencies and other organizations across the state supporting racial or ethnic minority groups, individuals with a language barrier, and low-income families
- Area Agencies on Aging and AARP supporting aging individuals
- Missouri Department of Corrections, Unlocked Labs, and Concordance supporting formerly incarcerated individuals
- Missouri Veterans Commission supporting veterans
- Missouri Department of Mental Health, Missouri Assistive Technology, Missouri Developmental Disabilities Council, National Federation of the Blind of Missouri, Missouri Centers for Independent Living, and other entities throughout the state supporting individuals with disabilities
- MU Extension, Missouri Farm Bureau, and libraries supporting individuals who live in rural areas

Labor Partnerships: While OBD will not engage in activities that directly support or detract from the work of labor organizations, their organizations had a presence at several outreach events coordinated by the office. OBD will continue to engage with labor organizations in order to ensure representation and consideration of the individuals they represent. Two labor organizations in particular, Communications Workers of America (CWA) and the Laborers' International Union of North America (LiUNA) have and are expected to continue to engage with OBD throughout the implementation of the BEAD program and DEA. These organizations contributed to public discussions and focus groups guiding the office's work and also facilitated the distribution of OBD materials and information to their members.

Local Partnerships

The centrality of local support to accomplishing the goals of this plan can't be overstated. It is critical that communities both support and, where possible, lead the implementation of the digitally inclusive programming their communities need. These partnerships should include both individual citizens and larger organizations (e.g., government, nonprofits, businesses, etc.). In those instances where locals cannot lead the implementation of the programs serving their localities, it is critical that locals be entrusted with providing oversight of said programs. By

entrusting oversight to those individuals who are directly impacted, the serving organization will be held accountable for the results of their work.

The third strategy will take on increased importance as DECGP funding expires and the funds from the Digital Equity Competitive Grant Program becomes available to community serving institutions.

Strategy #4 Review and Revise

In a rapidly evolving world a static plan is insufficient to meet the constantly changing needs of a populace. OBD will commit to an annual review of the contents of this plan to ensure it remains reflective of, and responsive to, the needs of Missouri's covered populations. This review mechanism will ensure sufficient progress is being made towards attaining the measurable objectives established in this first iteration of the Digital Opportunity Plan. The annual review will also enable OBD to review and revise ongoing expenditures of State Digital Capacity Grant Funds within the context of the overall multiyear plan. This assessment will also enable OBD to ensure the long-term viability of current programming while also enhancing post-DEA sustainability.

The goals, objectives, and envisioned core activities necessary to realize the implementation strategy are listed below. These goals are intended to apply to all of Missouri's covered populations with efforts being tailored to the unique needs as expressed by each population and/or their representatives:

Goals	Objectives	Core Activities
Reduce Barriers to Universal Internet Access	Connect 100% of unserved households w/ BEAD funds	• Conduct one or more rounds of grant applications that will award funding to the ISPs whose projects will ensure that all unserved locations in Missouri receive service • Develop map showing broadband availability across Missouri • Partner with ISPs to locate gaps in coverage
	Achieve 67% ACP participation rate	• Promote ACP via State of Missouri official channels of communications, both new and existing • Encourage partners to promote ACP • Coordinate ACP promotional work amongst externally funded

		partners (e.g., ACP Outreach Grant Awardees) • Launch OBD branded GetACP website with Education Superhighway
	Increase internet affordability	• Promote ACP (see above), Lifeline, and other national programs/organizations that offer internet assistance • Develop framework for determining broadband availability • Require BEAD funded entities to comply with affordability framework • Encourage competition amongst ISPs
	Reduce language barriers for English language learners	• Ensure digital inclusion programming is available in multiple languages • Partner/provide funding to organizations serving English language learners • Promote digital skills and ABE in languages other than English • Conduct concerted outreach efforts in predominantly immigrant and/or other non-English language learners

Increase the technological capacity of Missourians	Increase the supply of affordable devices, prioritizing large screen devices, in Missouri	- Identify potential areas of cooperation between state agencies/departments and local refurbishers to locate new sources of fully Internet capable devices - Fund programming that distributes free and/or subsidized devices - Develop programming that matches credential program graduates with devices - Incentivize the MO-based groups including the private sector to donate devices - Promote and support new and existing low and no-cost refurbishers
Improve Missourians digital skills and capacity to function online	Increase opportunities to engage in the digital economy	- Promote tech and digital fellowships/technical training - Support the expansion of work requiring digital skills - Encourage local educational and workforce agencies to prioritize digital skills. (e.g., Partner with DHEWD and local employers to fund the development and delivery of a curricula that provides unemployed and underemployed with the technical skills required for the in-demand jobs) - Expand resources available at career centers - Provide grants to groups that focus on upskilling traditional

		• non-Internet or technology related programs • Assist academic institutions in developing 1:1 student to technology ratio in classrooms • Fund programming that deploy full "wrap-around" services to ensure that the social determinants of poverty are also being addressed • Increase access to online education alternatives to traditional education programs
	Improve digital skills	• Recruit, train, and deploy digital navigators • Fund the creation of courses and curricula focused on developing digital skills • Develop free online repositories of coursework on crucial skills • Support locally led "train the trainer" programs • Increase access to digital skills trainings in primary and secondary schools • Develop means to track digital skills improvement
	Increase the availability of Adult Education & Literacy (AEL)	• Support the development of AEL that ensures Missourians completing AEL have the basic skills necessary to get online
	Enhance Missourians sense of security and privacy online	• Deploy cybersecurity focused digital navigators into communities with need • Support nationwide initiatives like AARP Fraud Watch Network
	Prepare Missourians to become more effective online	• Develop training services/materials that can be accessed in the absence of an internet connection to prepare for an online transition

Improve Missouri covered population health outcomes	Increase capacity of hospitals and other medical facilities to handle health outcomes	• Connect underfunded hospitals with resources to develop increased telehealth capacity • Through DEA capacity funds, fund programming that provides wrap-around services for digitally disconnected communities • Through BEAD funding, fund broadband deployments that connect rural and low income communities with telehealth capable medical facilities
Increase accessibility of government services	Ensure ease of access of online resources for community members	• Utilize the resources provided by the internet to ensure that residents can access informational materials in their first language • Ensure online-only government sites are functional across PC, tablets, and cellular telephones • Reduce the data consumption rates of government sites for ease of access of limited data households • Communicate with public clearly about status of public services via multiple channels including non-electronic channels

4.3 Sustainability

OBD will make every effort to eliminate the barriers to equitable digital opportunities within the designated timeframe. Given the scale of the mission at hand, it may not be possible to completely bridge the digital divide within the time allotted. Therefore, OBD has committed to ensuring the sustainability of OBD-supported programming beyond the existence of IIJA. OBD has set forth the following practices to support sustainability within Missouri's digital inclusion ecosystem:

- Affordability: OBD is currently exploring options to guarantee middle class and low-income broadband affordability (see Broadband Affordability). In order to receive funding from OBD, through the BEAD program ISPs will be required to submit pricing information, will be required to submit a low-cost plan for eligible individuals, and will be scored on the cost of a 1 Gbps/1 Gbps plan. Future OBD deployment programs will also select recipients on the basis of affordability commitments, among other considerations. OBD will continue to perform outreach, support registration, and other promotional efforts on behalf of the ACP.
- Devices: OBD is currently exploring the various ways to ensure a stable supply of functional low-cost devices (PCs, tablets, monitors, hotspots, etc.) for disconnected Missourians. OBD will also seek to incentivize the distribution of surplus devices by ISPs and other MO-based organizations via the OBD-managed BEAD and DEA-related funding program.
- Digital Skills/Internet Privacy & Security: OBD expects to partner with a number of organizations over the lifetime of DEA. When existing free digital skills curricula is available, it will be used. OBD will also fund creation of content that will provide Missourians instruction in the skills necessary to be safe and productive within the digital economy. Several examples of sites with this type of content currently exist (e.g., digitalequity.missouri.org). While OBD cannot enforce the continued delivery of instruction post-DEA funding, OBD will prioritize that any content created with funding provided by Missouri's share of DEA funding be made publicly available free of charge. This will ensure that any Missourian with the desire to pursue digital skill and knowledge development has the option to do so.

The information above represents the actions developed thus far to promote long-term sustainability, however, they should not be considered exhaustive. OBD will continue to engage with national, state and local partners, as well with other state broadband offices to ascertain and implement novel techniques that ensure continued digital inclusion services beyond the existence of DEA funding.

4.4 Broadband Vulnerability

The University of Missouri's CARES program designed and developed a broadband vulnerability "footprint" tool. The footprint tool intersects three datasets that identify "hotspots," areas of opportunity, areas at varying degrees of need, and gaps in data related to broadband access across Missouri. The following data layers make up the broadband vulnerability footprint tool:

a. Population in poverty (100% of Federal Poverty Line (FPL)) by census tract, American Community Survey 2017-2021
b. Households with No or Slow Internet by census tract, American Community Survey 2017-2021
c. Broadband Serviceable Locations without 100/20+MPBS Access, Federal Communications Commission 2022

Data supporting the broadband vulnerability footprint will be updated as new data is made available by the source.

The broadband vulnerability footprint allows visitors to view and adjust thresholds that determine the intersections of the three data layers. Default thresholds are set at ≥15% of the population in poverty (below 100% FPL); ≥25% of households reporting "no or slow internet;" and ≥50% of serviceable locations without 100/20+MPBS access. Upon loading, the footprint defaults to showing:

a. Areas that meet only one threshold. Census tracts shaded in green represent areas that have a population in poverty greater than or equal to 15%. Census tracts shaded in dark blue represent areas that report "no or slow internet" at rates equal to or higher than 25%. Census tracts shaded in light blue represent areas that report greater than or equal to 50% of serviceable locations without 100/20+MBPS access.
b. Areas that meet two of three thresholds. Census tracts shaded in light brown represent areas that either meet the poverty and no or slow internet thresholds, the poverty and broadband serviceable locations thresholds, or the no or slow internet and broadband serviceable locations thresholds. Visitors can determine which two thresholds are being met in each census tract by clicking the map to view metadata.
c. Areas that meet all three thresholds. Census tracts shaded in orange represent areas that meet all three thresholds and represent areas of greatest need.

The broadband vulnerability footprint is available publicly at mobroadband.org.. The tool also allows for the overlay of related datasets from the CARES database, including layers related to race, ethnicity, age, gender, and a wide variety of social determinants of health. This tool also produces a short report that provides tabular data for the areas that meet all three thresholds.

OBD will use the broadband vulnerability footprint to identify priority areas for digitally inclusive programming. By doing so, OBD can precisely target those areas most acutely impacted by the digital divide.

Footprint Definition
- Population in Poverty >= 15%
- Population with No or Slow Internet >= 25%
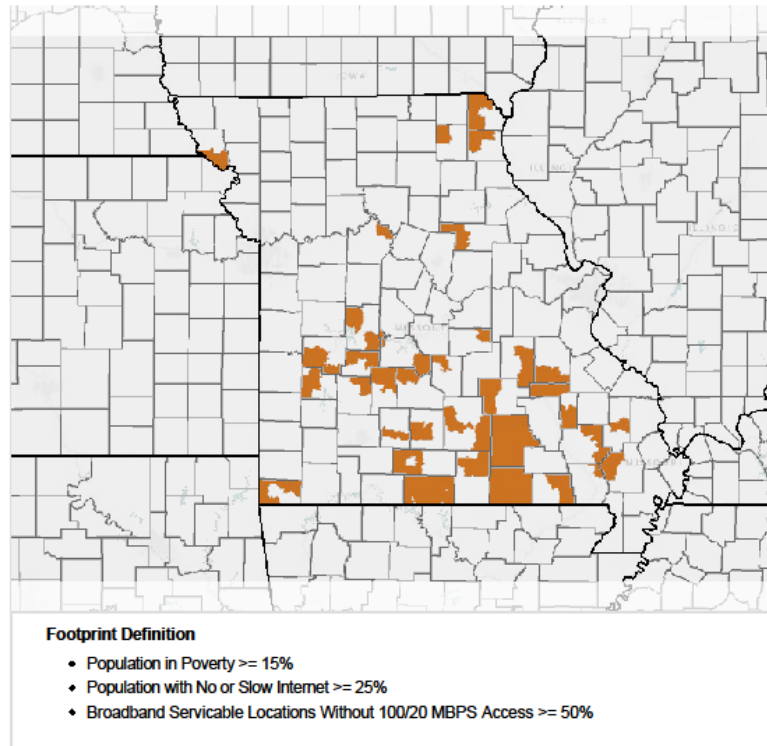- Broadband Servicable Locations Without 100/20 MBPS Access >= 50%

Figure: Broadband Vulnerability Footprint tool showing the areas of Missouri that are acutely impacted by the digital divide and thus labeled broadband vulnerable (Source: University of Missouri Center for Applied Research and Engagement)

4.5 Broadband Affordability

Per the requirements of the BEAD program, Missouri is currently exploring options for ensuring middle class affordability. The University of Missouri assisted in creating a tool to determine metrics for measuring broadband affordability.

CARES identified and analyzed data related to broadband affordability, access, and equity. Using data on income and households from the American Community Survey, CARES modified the methodology used to calculate housing cost-burden to develop a cost-burden methodology for broadband. The original housing cost-burden methodology was developed by the US Census Bureau, in partnership with the Department of Housing and Urban Development. For this project, CARES defined 'cost-burdened' as spending more than 5% of household income on home internet expenses. The determination of the 5% of household income threshold was informed by cost and affordability studies from the 2021 Broadband Pricing Index, the Federal Communications Commission Urban Rate Study, and the 200% of FPL threshold set by the Affordable Connectivity Program guidelines.

First, a calculation of income at or below the point that one would be considered 'cost-burdened' by internet expenses was determined. Second, an estimation of the number of households at or below the income level was calculated. The output of these calculations resulted in estimates of the number and percentage of households that are cost-burdened by high-speed internet expenses. Broadband affordability was calculated for multiple theoretical monthly subscription rates - $50, $75, $100, and $150 per month.

Calculations of broadband affordability by race and ethnicity were executed to help highlight and uncover populations that may be disproportionately cost burdened by internet expenses. CARES made the data and outputs of the analysis available in two ways on mobroadband.org - 1) visitors can view the broadband affordability index as map layers and overlay related datasets from the CARES database and 2) visitors can view the broadband affordability index as tabular data by county, census tract, or by MU Extension region in the Broadband Needs Assessment tool.
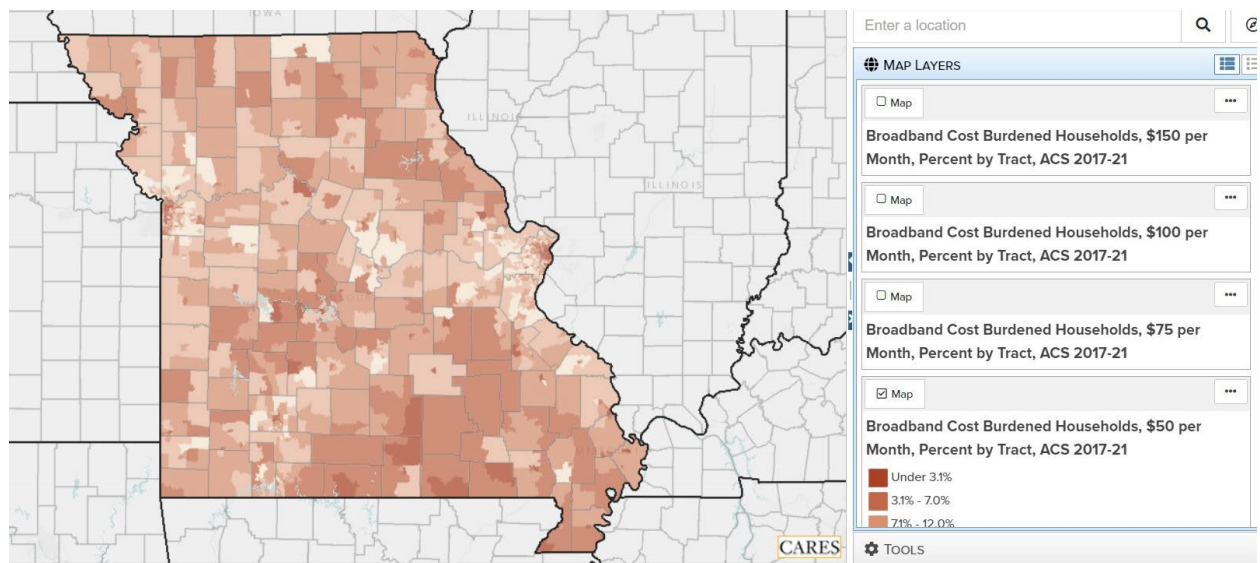
Figure 4: CARES broadband affordability index map

4.6 Devices

OBD does not typically engage in direct service delivery, and this practice is expected to continue for the life of the DEA. The Office will however explore all possible avenues, public and private, for increasing the total supply of low-cost devices available to Missourians. Recognizing that the internet and internet-based applications are not equally accessible across all electronic devices, OBD will prioritize identifying and increasing access to/ownership of large screen devices (e.g., tablets, laptops, and desktops). OBD will seek to incentivize the donation of used functional devices by OBD partners, grantees, and private businesses. This initiative aims to support, not replace, existing local efforts, which focus on device distribution. This practice will ensure a regular supply of low-cost devices are available to digitally disconnected Missourians throughout and beyond the lifetime of IIJA.

4.7 Coordination and Outreach Strategy

The State of Missouri will continue to maintain channels of communication with vested partners and community stakeholders throughout the implementation of the provisions of the DEA. OBD has put in place several policies that are intended to ensure that the public has sufficient oversight of OBD's activities. These processes were implemented during the planning stage and will continue going forward.

During the planning stage, OBD enlisted the support of representatives from each of NTIA's designated covered populations to serve on an advisory council. This council will meet quarterly for the length of IIJA and will provide guidance on any programming that emanates from OBD. This council is comprised of 17 members and includes elected officials, non-elected public leaders, and members of the public from various backgrounds. Members of the advisory council include representatives of the following organizations: Missouri House of Representatives and Senate (all covered populations), MO Farm Bureau (rural residents), the HBCU Lincoln University (covered households, racial/ethnic minorities), MO Department of Agriculture, MO Department of Economic Development, MO Housing Development Commission, MO Chamber of Commerce, MO Telehealth Network, county commissioners (all covered populations), local/regional economic development agencies, MO Association of Rural Education, and MO Municipal League. OBD expects to rotate members of the council to ensure representation of all covered populations in order to address the needs of all covered populations; MO Assistive Technology (Individuals with a language barrier; Individuals with a disability) and MO Department of Corrections (Incarcerated individuals) are amongst the organizations that expressed their interest in appointing a representative to the council in the future. OBD has also met with over 100 digital equity partner organizations representing all covered populations and continues to hold monthly stakeholder webinars/calls to keep these organizations informed about OBD's activities and programs, including evolving issues in digital equity.

OBD also engaged in extensive public engagement beginning in the autumn of 2022 and concluding with the submission of this Digital Opportunity Plan. This began with a Statewide Broadband Kick-Off event which brought together broadband and digital equity stakeholders from across the state. OBD followed this with two statewide tours of Missouri visiting each of the RPC regions at least twice, totaling 43 meetings, to assess the broadband needs of Missourians. The various staff members within OBD also engage in media interactions to promote OBD's activities, including but not limited to interviews; radio, social media, and television advertising; press conferences; and press releases.

OBD engaged several partners throughout the state to assist with promotion, outreach, community engagement and data collection. OBD partnered with the RPCs and the St. Louis County Library system, as well as the University of Missouri System (MU) to engage stakeholders within their region of the state by means of sending emails, phone calls, flyers, and connecting with local businesses and organizations to ensure our correspondence is reaching as many citizens as possible around the state. Without strong partnerships like these OBD would not have had as robust of an outreach campaign.

The RPCs and the St. Louis County Library hosted and promoted in-person regional engagement meetings. In October and November 2022 OBD conducted their first round of listening sessions across the state. These sessions allowed stakeholders to have their voices

heard about what the challenges and barriers are on a regional basis. OBD divided the meetings between sections focusing on the BEAD program and DEA. The first part of these meetings was a presentation on the BEAD program where the office shared maps and statistics on a regional basis and information from the Notice of Funding Opportunity. The second part was a presentation on the Digital Equity Act. At the end of each part, OBD opened the meeting for discussion and encouraged attendees to share their experiences about access, affordability, and adoption of the internet. OBD offered a virtual and phone in option for those who may not have been able to attend in-person. During these 23 listening sessions OBD heard from over 625 Missourians in the 19 regions of the state. In May and June of 2023, OBD conducted a follow-up round of in-person meetings. These public engagement sessions allowed OBD to present how it incorporated stakeholder input into plans for BEAD and DEA and share current BEAD eligibility maps based on the counties within each region. It was also an opportunity to update stakeholders on what to expect in the upcoming months and OBD's timeline for each of the programs. Stakeholders were able to ask questions and provide further input on the plans. During the follow-up tour, OBD visited the 19 regions of the state, with 20 separate meetings held, while hearing from over 400 stakeholders statewide. OBD again offered the meetings virtually and by phone for anyone who may not have been able to attend in-person. Stakeholders heard from included citizens, local government officials, Internet Service Providers, electric cooperatives, Missouri Farm Bureau, United States Department of Agriculture (USDA), digital inclusion organizations, libraries, schools, banks, chambers of commerce, health care entities, regional planning commissions, and University of Missouri Extension. These partners were also expected to provide feedback on both the Digital Opportunity Plan, as well as the BEAD 5-Year Action Plan and to promote and distribute the plans to relevant stakeholders and attendees of their regular meetings in order to encourage public participation in the comment process.

From October 24, 2023, to November 26, 2023, OBD allowed members of the public and stakeholders groups to review the Digital Opportunity Plan and to provide public comment. OBD participated in multiple public outreach engagements to publicize the public comment period, including a KCDD hosted webinar. During this period OBD received nearly 500 responses which were considered, and in some cases, integrated into the plan. To publicize the public comment period OBD sent multiple direct emails to the State of Missouri digital equity stakeholders email list which includes over 400 individuals and organizations representing stakeholders for all covered populations. Additionally, on November 28, 2023, OBD hosted a focus group with stakeholder organizations representing all covered populations to provide feedback on the Digital Opportunity Plan as well as how to effectively design programming to be supported by the State Digital Equity Capacity Grant.

OBD will also continue to abide by its already-existing public engagement practices. This includes issuing a 30-day public comment period and hosting a focus group before finalizing any DED grant program guidelines. OBD will also release video walkthroughs which explain in detail the rules and application process/requirements for participation in OBD programs.

OBD will also reissue statewide surveys of Missourians' broadband and digital inclusion needs in order to measure progress towards attainment of the Digital Opportunity Plan's measurable objectives. The survey will be administered at the midpoint and conclusion of the period of performance for the Digital Equity Capacity Grant (DECPG). The first study was sent directly to 80,000 Missouri households. The process for administering this survey will mirror that of the 2023 MO Broadband Internet Survey with adjustment to assess information that may not be adequately represented by the reports submitted by DECPG subrecipients.

4.8 Measurable Objectives

In order to ensure OBD is making real progress towards attaining digital equity and supporting Missouri in advancing their own prosperity OBD has identified the following measurable objectives. The objectives are population-specific, measurable, time-bound and take into consideration the existing baselines for each population. The objectives are ambitious and informed by the data collected during the planning stage.

The chart below does not include measurable goals for broadband adoption; however, in line with the programmatic requirements of BEAD, OBD intends to pursue 100% adoption for all unserved and underserved households by 2028. This goal will be pursued to the greatest extent possible; however, OBD recognizes that attainment above 93% may be limited by individual interest in obtaining broadband service.

See next page for measurable objectives.

Covered Population	Affordability, Accessibility, and Digital Skills
Covered households	• Increase eligible households enrolled in the ACP by 5% annually through 2028. * • Increase the percentage of households reporting their use of a personal computer at home to 85% by 2028 (Baseline: 78%) • Increase the percentage of households reporting their use of the internet to access health or government services to 75% by 2028 (Baseline: Health - 66% and Government - 70%) • Increase percentage of households using the internet for online training to 30% by 2028 (Baseline: 27%) • Increase percentage of households using the internet for educational needs to 60% by 2028 (Baseline: 48%) • Increase percentage of households using the internet to search/apply for jobs to 40% by 2028 (Baseline: 32%) • Reduce the percentage of smartphone only households by 50% by 2028 (Baseline: 12%) • Connect 100% of unserved/underserved households (94,767) using BEAD funds by 2028**
Aging individuals	• Raise ACP participation rate by 3% annually through DEA Capacity funding period of performance* • Increase the percentage of households reporting their use of a personal computer at home to 93% by 2028 (Baseline: 90%) • Increase the percentage of households reporting their use of the internet to access health or government services to 80% by 2028 (Baseline: Health - 73% and Government - 70%) • Increase percentage of households using the internet for online training to 35% by 2028 (Baseline: 27%) • Develop and make available in all 114 counties training in core online skills that can be accessed offline by August 1, 2025 (Baseline: 0) • Reduce the percentage of smartphone only households by 50% by 2028 (Baseline: 4%) • Fund 1-2 programs that increase the telehealth capacity of hospitals by 2028 (Baseline: 0) • Connect 100% of unserved/underserved households (108,305) using BEAD funds by 2028**

Covered Population	Affordability, Accessibility, and Digital Skills
Veterans	• Raise ACP participation by 7% annually through DEA Capacity funding period of performance* • Increase the percentage of households reporting using a personal computer at home to 95% by 2028 (Baseline: 93%) • Increase the percentage of households reporting their use of the internet to access health or government services to 80% by 2028 (Baseline: 74%) • Increase percentage of households using the internet for online training to 55% by 2028 (Baseline: 46%) • Reduce the percentage of smartphone only households to 3% by 2028 (Baseline: 4%) • Connect 100% of unserved/underserved households (27,978) using BEAD funds by 2028*
Individuals with a language barrier	• Raise ACP participation by 15 % annually through DEA Capacity funding period of performance* • Ensure 100% of promotional materials and programmatic can be translated within 5-7 business days of a request by December 31, 2024(Baseline: 0%) • Increase the percentage of households reporting using a personal computer at home to 90% by 2028 (Baseline: 86%) • Increase the percentage of households reporting their use of the internet to access health or government services to 75% by 2028 (Baseline: Health - 66%; Government – 72%) • Increase percentage of households using the internet for online training to 65% by 2028 (Baseline: 53%) • Connect 100% of unserved/underserved households (67,690) using BEAD funds by 2028**

Covered Population	Affordability, Accessibility, and Digital Skills
Individuals who are ethnic/racial minorities	• Increase eligible households enrolled in the ACP by 10% annually through 2028. * • Increase the percentage of households reporting their use of a personal computer at home to 90% by 2028 (Baseline: 85%) • Increase the percentage of households reporting their use of the internet to access health or government services to 80% by 2028 (Baseline: Health - 73% and Government - 74%) • Increase percentage of households using the internet for online training to 60% by 2028 (Baseline: 51%) • Increase percentage of households using the internet for educational needs to 70% by 2028 (Baseline: 63%) • Increase percentage of households using the internet to search/apply for jobs to 54% by 2028 (Baseline: 44%) • Reduce the percentage of smartphone only households by 50% by 2028 (Baseline: 8%) • Connect 100% of unserved/underserved households (94,315) using BEAD funds by 2028**
Individuals with disabilities	• Raise ACP participation by 13% annually through DEA Capacity funding period of performance* • Increase the percentage of households reporting their use of a personal computer at home to 93% by 2028 (Baseline: 88%) • Increase the percentage of households reporting their use of the internet to access health or government services to 85% by 2028 (Baseline: Health - 80% and Government - 76%) • Increase percentage of households using the internet for online training to 56% by 2028 (Baseline: 46%) • Increase percentage of households using the internet for educational needs to 60% by 2028 (Baseline: 55%) • Increase percentage of households using the internet to search/apply for jobs to 50% by 2028 (Baseline: 37%) • Connect 100% of unserved/underserved households (27,076) using BEAD funds by 2028**

Covered Population	Affordability, Accessibility, and Digital Skills
Individuals who primarily reside in a rural area	- Raise ACP participation to 7 % annually through DEA Capacity funding period of performance* - Increase the percentage of households reporting their use of a personal computer at home to 94% by 2028 (Baseline: 89%) - Increase the percentage of households reporting their use of the internet to access health or government services to 75% by 2028 (Baseline: Health - 67% and Government - 64%) - Increase percentage of households using the internet for educational needs to 60% by 2028 (Baseline: 52%) - Fund 1-2 programs that increase the telehealth capacity of rural hospitals by 2028 (Baseline: 0) - Connect 100% of unserved/underserved households (189,092) using BEAD funds by 2028**
Incarcerated individuals, other than individuals who are incarcerated in a Federal correctional facility	- Raise ACP participation rate for families to 65% through DEA Capacity funding period of performance* - Attend 100% of annual DOC Re-Entry Conferences through 2028 (Baseline: 0) - Fund 3 programs annually that upskill eligible prisoners to prepare them for release by 2028 - Fund at least one program annually that match FIPs with device/skills trainings upon release (Baseline: 0) - Connect 100% of unserved/underserved households (3,159) using BEAD funds by 2028** - Distribute 500 pamphlets of key digital equity resources at each DOC Ree-Entry Conference until 2028

*The demographic breakdown of the total eligible households is assumed to be the same as the general population of Missouri (e.g., Racial/Ethnic minorities comprise 20.9% of Missouri's total population so OBD has calculated the number of ACP eligible racial/ethnic minority households to be 211,178 of 1,010,422 total eligible households). OBD will not limit its efforts to these meeting these estimates and if evidence indicates eligible households, for any covered population, remain unregistered OBD will continue to pursue the enrollment of those households.

**Likewise, the number of unserved/underserved locations was calculated assuming their distribution is also in line with that of Missouri's total populations. In the event the total number of unserved locations for any population exceeds the estimate OBD will still make every effort to achieve 100% connectivity for those households that desire to attain it.

Devices (including Device Affordability and Technical Support) *
- Recruit 3-4 partner organizations annually to participate in state sponsored device refurbishing program (Baseline: 1)   - Directly or indirectly support the distribution of 1500 devices in 2024 and increasing by 500 devices annually through 2028 (Baseline: 310)   - Ensure ≥50% of devices purchased/refurbished/distributed with OBD funds are large screen devices through 2028 (Baseline: 100%)   - Ensure 100% of OBD funded device distribution programs include 1 or more year warranty beginning in 2025 (Baseline: 0%)   - Fund the development of 5 programs annually through 2028 that distribute low-cost or free devices to covered populations (Baseline: 1)   - Require 100% of OB funded device distribution programs include technical support for ≥90 from date of purchase   - Fund 1-2 programs annually that support the establishment of 1:1 student to device ratios in schools that sunsets no later than December 31, 2028 (Baseline: 0)

Online Privacy & Cybersecurity (OPC)*
- Conduct 150 OPC focused training sessions in 2025, 250 in 2026, 350 in 2027, 400 in 2028   - Collaborate with AARP to integrate cybersecurity into Livable Communities Initiatives by 2028   - Promote 100% of OBD activities in AARP publications by 2025   - Require 100% of OBD supported digital skills programming include sections on OPC by 2025   - Conduct 4 or more online privacy and cybersecurity skills training events per county (may be virtual) annually through 2028   - Develop outreach and promotion toolkit to assist rural counties with promoting all skills trainings   - Reduce by 50% the total number of persons reporting personal information security, privacy, and computer viruses as major concerns when engaging online (Baseline: Dependent on covered population (see: Focus Population Summaries)

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*The presently available devices and cybersecurity/privacy baselines in Missouri are insufficiently understood to develop realistic, measurable time bound goals for each population. OBD has accordingly developed statewide goals for those categories.

4.9 Alignment with Existing State Efforts

The various executive agencies within the State of Missouri have spent time and effort developing plans to solve the most pressing issues facing Missourians today. Those plans outline each agency's goals for the future, and the programming required to accomplish those goals. OBD recognizes these efforts and defers to the agencies subject matter expertise. OBD will fund projects that further the goals of these agencies and will aim to deploy complimentary digital inclusive programming. OBD coordinated with the staffs at each agency to align this plan with those already in existence.

The Department of Elementary and Secondary Education (DESE) has developed the *SHOW ME SUCCESS Strategic Plan* which outlines the department's vision and priorities for the coming years. DESE recognizes four pillars upon which to ground the public education system in Missouri: Early Learning & Early Literacy; Success-Ready Students & Workforce Development; Safe & Healthy Schools; and Educator Recruitment & Retention. The plan also outlines 3-5 strategies for improving outcomes related to each pillar. Each of these goals align with this plan's third strategic objective—Improve and Expand Educational Outcomes—and will result in complementary efforts between OBD and DESE.

- DESE Goal(s):
  - Produce Success-Ready Students & Workforce Development
- Target Covered populations:
  - All covered populations' school aged children
- Relevant Measurable Objective(s):
  - Increase percentage of households using the internet for online training
  - Increase percentage of households using the internet for educational needs
  - Increase percentage of households using the internet to explore post-secondary school opportunities
  - Develop and make available in all 114 counties training in core online skills

DESE has also produced the Adult Education & Literacy Integrated Education and Training (AEL-IET) Strategic Plan 2023-2028. This plan provides a framework for the expansion of workforce literacy and occupational training opportunities with the ultimate goal of assisting Missouri's adult students to attain basic and secondary education while pursuing long-term employment. OBD will seek to utilize funds provided by the Digital Equity Act to enhance and expand the programming outlined in the AEL-IET Strategic Plan.

- DESE Goal(s):
  - Enhance access to in-demand career pathway opportunities.
  - Increase performance outcomes (measurable skill gains, credentials, employment measures).
  - Improve coordination and partnerships to enrich learner experience.
- Target Covered populations:
  - Individuals with language barriers
  - Individuals with disabilities
- Relevant Measurable Objective(s):
  - Increase percentage of households using the internet for online training

- o Increase percentage of households using the internet for educational needs
- o Increase percentage of households using the internet to search/apply for jobs
- o Develop and make available in all 114 counties training in core online skills

Every five years the Department of Health and Senior Services (DHSS) releases the *State Health Improvement Plan (SHIP).* The most recent version of this plan recognizes six priority issues which OBD will seek to support through the programming enabled by IIJA. The six priority issues are: 1) Public Health System Building 2) Infant & Maternal Health 3) Health Behaviors 4) Emerging Public Health Threat Preparedness 5) Social Determinants of Health, and 6) Whole Person Health Access.

- DHSS Goal(s):
  - o Public Health System Building
- Target Covered Population(s):
  - o Individuals with disabilities
  - o Rural residents
  - o Residents 60 and above
- Relevant Measurable Objective(s):
  - o Fund 1-2 programs that increase the telehealth capacity of rural hospitals by 2028

In light of the massive disruption caused by the COVID-19 pandemic, and in response to the serious healthcare system vulnerabilities exposed, DHSS composed a report entitled *Strengthening the Workforce Pipeline: Recommendations for Public Health and Healthcare in Missouri*. The report outlines 24 recommendations to better equip Missouri for future pandemics. OBD will support these efforts by funding programming that expands the virtual participation opportunities for interested Missourians.

- DHSS Goal(s):
  - o Expand Area Health Education Center pipeline programming
  - o Expand access to middle school health science exploration programming
  - o Foster internships, apprenticeships, and fellowships
  - o Assist unlicensed personnel as they pursue education through supportive services
  - o Placement of qualified DOC Offenders in healthcare positions
  - o Establish a training bridge pilot program to connect individuals to healthcare certification training and apprenticeships
- Target Covered Populations:
  - o Covered households
  - o Incarcerated individuals
  - o Veterans
  - o Racial/ethnic minorities
  - o Rural residents
- Relevant Measurable Objective(s):
  - o Increase percentage of households using the internet for online training
  - o Increase percentage of households using the internet for educational needs

- Increase percentage of households using the internet to search/apply for jobs
- Increase the percentage of households reporting their use of the internet to access health or government services
- Fund 3 programs annually that upskill eligible prisoners to prepare them for release by 2028
- Fund at least one program annually that match FIPs with device/skills trainings upon release

The Missouri Chamber of Commerce, working in collaboration with a multitude of state partners, conducted a full year outreach and comprehensive analysis of the state's economic performance and compiled the results in the *Workforce 2030: A Call to Action* report detailing the current need for workforce development efforts, and proposing solutions to position the state ideally for future growth and success.

- Goal(s):
    - Increase the voice of business and industry on education and workforce issues at the state and national policy levels
    - Align workforce needs with outcomes from Missouri's education systems by facilitating research and collaboration between business, leaders, educators, policymakers, and workforce development professionals
    - Optimize existing training programs and find innovative solutions to address gaps
    - Increase the number of students considering technical employment, STEM and other targeted employment sectors
    - Expand relevant work experience opportunities throughout the education system
- Target Covered Populations:
    - All covered populations
- Relevant Measurable Objective(s):
    - Increase percentage of households using the internet for online training
    - Increase percentage of households using the internet for educational needs
    - Increase percentage of households using the internet to search/apply for jobs
    - Develop and make available in all 114 counties training in core online skills

St. Louis commissioned a study and published their findings in a report entitled, *St. Louis Digital Divide: Summary of Study and Findings*. This report outlines the current state of digital equity. In particular the study highlights the overwhelming impact that poverty has had on the city, and how that is only compounded by inequitable access to high-speed Internet and the related resources. The city then followed the initial study up with their *STL Digital Inclusion Action Plan*, intended to guide their efforts at bridging the digital divide.

- Goal(s):
    - Improve equitable access to affordable high-speed internet and connected devices
    - Enable residents to experience the long-term benefits of technology
- Target Covered Populations:

- o Covered households
- o Aging individuals
- o Incarcerated individuals
- o Veterans
- o Individuals with disabilities
- o Individuals with a language barrier
- o Racial/ethnic minorities
- Relevant Measurable Objectives
  - o All measurable objectives

The U.S. Economic Development Administration provides funding to DED for a Comprehensive Economic Development Strategy (CEDS). This strategy outlines the State's economic development priorities for the interim period between publications. Missouri last produced a CEDS in 2011. DED is currently in the process of producing an updated CEDS with an expected release date to occur in 2025. As both the State Digital Equity Report and CEDS are produced by DED the two teams responsible for publication have committed to regular consultations in order to assure the two plans are complementary.

Missouri is currently implementing the Missouri Digital Government Transformation initiative which will see the state transform its online presence from an informative platform to a conduit for the delivery of essential services for Missouri residents and businesses. At the end of this initiative Missourians all state agencies will become accessible via the internet and most major services will become available online. This platform will ease the process for Missourians to locate and/or access their tax information, health services, and government benefits. The platform will also be tailored to the unique needs of each consumer. As an online service, it will be critical that Missourians have access to reliable high-speed internet in order to access the benefits of utilizing the platform. The successful implementation of the Digital Opportunity Plan will support the ability of all of Missouri's covered populations to access and reap the benefits of the initiative.

The Missouri Department of Corrections releases an annual Strategic Plan to outline their goals for the year. The most recent plan, corresponding to fiscal year 2024, has three strategic initiatives: 1) Build a safer work environment 2) Improve the workforce 3) Reduce risk and recidivism. The work of OBD will closely interact with the second and third initiative. In order to support that work OBD will work to provide opportunities for members of the justice system to enhance their marketable skills and personal/professional capacity within the digital economy.

- DOC Goal(s):
  - o Reducing risk & recidivism
- Target Covered Populations:
  - o Incarcerated Individuals
- Relevant Measurable Objective:
  - o Raise ACP participation rate for families to 65% through DEA Capacity funding period of performance*

- o Attend 100% of annual DOC Re-Entry Conferences through 2028
- o Fund 3 programs annually that upskill eligible prisoners to prepare them for release by 2028
- o Fund at least one program annually that match FIPs with device/skills trainings upon release
- o Connect 100% of unserved/underserved households (3,159) using BEAD funds by 2028**
- o Distribute 500 pamphlets of key digital equity resources at each DOC Ree-Entry Conference until 2028

The Missouri Community Development Block Grants (CDBG) Team within DED, Missouri Housing Development Commission (MHDC), and DHSS are responsible for producing the Missouri Consolidated Plan. This plan is the single planning document for the use of Department of Housing and Urban Development (HUD) CDBG funding. Missouri updates this plan every five years and has recently had its 2023-2027 Consolidated Plan approved by HUD. Missouri has identified a number of high priority needs and has targeted available resources toward several specific goals that are designed to address those needs. These needs include affordable housing for low-income households; homeless and special needs persons; public improvements such as water and wastewater and public facilities for low- and moderate-income persons; economic development opportunities such as industrial infrastructure and downtown revitalization for low to moderate income persons; and long-term recovery and emergency projects due to disasters. The state agencies charged with developing and implementing this Plan, partner with other state, federal, and local agencies to deliver the programs that meet the identified needs. OBD will build upon the existing partnership to ensure that housing and development goals/efforts are complimented by OBD programs.

- CDBG Goal(s):
  - o Provide suitable living environments and economic opportunities
- Target Covered Population(s):
  - o Covered households
- Relevant Measurable Objective(s):
  - o Increase eligible households enrolled in the ACP by 5% annually through 2028.
  - o Increase the percentage of households reporting their use of a personal computer at home to 85% by 2028
  - o Increase the percentage of households reporting their use of the internet to access health or government services to 75% by 2028
  - o Increase percentage of households using the internet for online training to 30% by 2028
  - o Increase percentage of households using the internet for educational needs to 60% by 2028
  - o Increase percentage of households using the internet to search/apply for jobs to 40% by 2028
  - o Reduce the percentage of smartphone only households by 50% by 2028
  - o Connect 100% of unserved/underserved households (94,767) using BEAD funds by 2028

The Missouri Department of Higher Education and Workforce Development (DHEWD) released their strategic plan *Building Missouri's Future: A strategic plan to provide pathways and reduce barriers to educational attainment and workforce participation* in 2021. The plan highlights the two major goals: 1) Raise the percentage of Missourians who have post-secondary credentials from 47% to 60% and 2) Raise the total labor force participation rate from 63% to 70%. The aim is to have accomplished both these goals by 2030. The plan then outlines several strategies to meet those goals. These goals align with OBD's vision for digital equity and will guide its workforce and higher education funding priorities.

- DHEWD Strategies(s):
  - Remove barriers to enrollment and employment
  - Support learners and workers through a holistic lens
  - Identify resources and create opportunities
- Target Covered Populations:
  - Covered households
  - Individuals with a language barrier
  - Racial/ethnic minorities
  - Rural residents
- Relevant Measurable Objectives:
  - Increase percentage of households using the internet for online training
  - Increase percentage of households using the internet for educational needs
  - Increase percentage of households using the internet to search/apply for jobs
  - Develop and make available in all 114 counties training in core online skills

The Missouri Community Services Commission (MCSC) is housed within DED and is primarily focused on increasing Missourians' volunteerism and service to their own communities. MCSC facilitates the provision of over $3.2 billion worth of service annually, primarily via the AmeriCorps State program. This commission is the state's primary vehicle for fostering civic and social service delivery. Broadband is a critical tool for increasing Missourians knowledge of and engagement with volunteer opportunities. As evidenced by the DDPGP, many of Missouri's digital navigators are volunteers whose time and efforts contribute to building a more skilled populace. By increasing the connectivity and technical capacity of Missourians OBD hopes to enable Missourians to locate opportunities to benefit from and/or deliver critical services to their community members. Being housed withing the same executive agency, OBD is well-placed to compliment MCSC's ongoing efforts.

- MCSC Goal(s):
  - Help all Missourians know that they can volunteer
- Target Covered Population(s):
  - All covered populations
- Relevant Measurable Objectives:
  - Increase percentage of households using the internet for online training
  - Develop and make available in all 114 counties training in core online skills
  - Connect all unserved and underserved households

The Missouri Department of Public Safety (State Emergency Management Agency) MDPS-SEMA is responsible for ensuring Missouri is prepared for, and capable of recovering from, major disasters and enhancing overall public safety. OBD can support MDPC-SEMA in all four of their major themes as highlighted in their strategic placemat: Inform and Educate, Stakeholder Support, and Strengthen Communities. The themes all focus on ensuring staff and members of the public have the knowledge necessary to respond to threats to public safety.

- MDPS-SEMA Initiatives:
    - Diversity: Develop and Deploy a program focused on diversity and inclusion in the workplace
    - LinkedIn Learning: Encourage team members to take meaningful LinkedIn Learning course and help staff become successful in meeting their yearly training requirement.
    - Severe Weather Week: Increase outreach and awareness to help citizens and employees prepare for severe weather
    - State Application Briefings: Utilize opportunities to share information with the public before, during, and after a disaster about the Public Assistance Grant program
    - Provide training that focuses on the gaps identified through the Multi-Year Training and Exercise Planning (MYTEP) process, which is informed by the Threat and Hazard Identification and Risk Assessment (THIRA).
    - Missouri Emergency Response Commission: compliance with statutes, educate stakeholders
    - Show Me Response Database: number and type of health professionals validated per month
    - Facilitate exercises that test plans and improve the knowledge, competence and confidence of participants
    - Analyze the life cycle of obligated projects within declared disasters to increase awareness of observable trends, and corrective realignment of strategies to reinforce expeditious pacing of project review, and increase the efficacy of the payment and closeout processes
    - Continue to build upon the Advanced Tier of the Tiered State Framework (TSF) and enhance the capacity, capability, performance measures, and planning and coordination of the National Flood Insurance Program to support our local, state, and federal partners in floodplain management
- Target Covered Population(s):
    - All covered populations
- Relevant Measurable Objectives:
    - Increase percentage of households using the internet for online training
    - Increase percentage of households using the internet for educational needs
    - Develop and make available in all 114 counties training in core online skills
    - Increase the percentage of households reporting their use of the internet to access health or government services
    - Connect all unserved and underserved households

The Digital Equity Act and BEAD programs are complementary and crucial to ensuring full participation for all Missourians in the digital economy. The barriers to achieving digital equity are multifaceted. There are many reasons an individual might lack internet access or digital skills. Different barriers demand different types of solutions. OBD takes a holistic view of broadband, connectivity, and digital equity and has reflected this in the BEAD Five-Year Action Plan and the Digital Opportunity Plan. These plans depend on the work of a broad range of partner organizations.

Due to the complexity of the issue and the diversity of the partners, a common framework is useful to help understand which particular barriers are being addressed by any given program. The dimensions of this framework build upon each other toward the outcomes people care most about. The five dimensions in this framework are:

1. Network Capacity
2. Access to the Network
3. Quality of Network Access
4. Participation in Digital Life
5. Excellence, Innovation, and Growth

Building network capacity with fundamental broadband infrastructure is critical to attaining digital equity and none of the subsequent dimensions can be achieved without it. A programmatic intervention may address one or more of these dimensions. This progression serves as a shared framework within which many different stakeholders can clearly identify which barriers their programs and interventions are aimed at solving. The framework also lends itself to combining various ways of measuring progress towards the objectives outlined above.

4.10 Timeline

The following timeline is a good faith estimate based on the information available from NTIA at the time of this plan's completion. The timeline may be subject to change based on factors outside of the control of OBD. Any changes to this timeline will be communicated to the public with sufficient time for general acknowledgement by the state's covered populations and digital equity practitioners.

	PROGRAM & OBJECTIVE	TASK	2023 Q1	Q2	Q3	Q4	2024 Q1	Q2	Q3	Q4	2025 Q1	Q2	Q3	Q4	2026 Q1	Q2	Q3	Q4	2027 Q1	Q2	Q3	Q4	2028 Q1	Q2	Q3	Q4	2029 Q1	Q2	Q3	Q4	2030 Q1	Q2	Q3	Q4
Statewide Grants	Partnership with statewide institutions to provide digital opportunity expansion programming in rural areas without established DE practitioners.	Program Design							■																									
		Application Review								■																								
		Program Implementation									■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				
		Reporting									■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	

Local Competitive Grants

PROGRAM & OBJECTIVE	TASK	2023	2024	2025	2026	2027	2028	2029	2030
		Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4

Accessibility Program

Objective 1.1: Connect 100% of unserved/underserved households using BEAD funds by 2028.

Task	Timeline
Program Design	2023 Q3–Q4
Application Review	2024 Q1
Program Implementation	2024 Q2 – 2029 Q2
Reporting	2024 Q1 – 2029 Q1

Affordability Program

Objective 2.1: Increase eligible households enrolled in the ACP annually through 2028.

Task	Timeline
Program Design	2024 Q3
Application Review	2024 Q4
Program Implementation	2025 Q1 – 2029 Q2
Option to Renew	2026 Q3 – 2028 Q1
Reporting	2025 Q4 – 2030 Q2

Telehealth Program

Objective 3.1: Fund 1-2 programs that increase the telehealth capacity of hospitals by 2028.

Task	Timeline
Program Design	2024 Q4
Round 1 Application Review	2025 Q2
Program Implementation	2025 Q4 – 2027 Q3
Round 2 Application Review	2027 Q4
Program Implementation	2028 Q2 – 2029 Q3
Reporting	2025 Q1 – 2029 Q2

Other

Objective 4.1: Ensure 100% of promotional and programmatic materials can be translated within 5-7 business days of a request by December 31, 2024.
Objective 4.2: Collaborate with AARP to integrate cybersecurity into Livable Communities Initiatives.

Task	Timeline
-	*Ongoing*

Missouri Broadband Survey

Task	Timeline
Survey 1	2028 Q4
Survey 2	2029 Q4

			2023				2024				2025				2026				2027				2028				2029				2030			
PROGRAM & OBJECTIVE	**TASK**		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Devices Program																																		

Local Competitive Grants

PROGRAM & OBJECTIVE	TASK
Objective 5.1: Reduce the percentage of smartphone only households by 50% by 2028. **Objective 5.2:** Recruit 3-4 partner organizations annually to participate in state sponsored device refurbishing program. **Objective 5.3:** Directly or indirectly support the distribution of 1500 devices in 2024 and increasing by 500 devices annually through 2028. **Objective 5.4:** Ensure >50% of devices purchased/refurbished/distributed with OBD funds are large screen devices through 2028. **Objective 5.5:** Ensure 100% of OBD funded device distribution programs include 1 or more year warranty beginning in 2025. **Objective 5.6:** Fund the development of 5 programs annually through 2028 that distribute low-cost or free devices to covered populations. **Objective 5.7:** Require 100% of OB funded device distribution programs include technical support for >90 from date of purchase. **Objective 5.8**: Fund 1-2 programs annually that support the establishment of 1:1 student to device ratios in schools that sunsets no later than December 31, 2028.	Program Design Application Review Program Implementation Reporting

Gantt chart bars:
- **Program Design**: 2024 Q2
- **Application Review**: 2024 Q3
- **Program Implementation**: 2024 Q4 through 2029 Q4
- **Reporting**: 2024 Q4 through 2029 Q4, and 2030 Q3–Q4

	PROGRAM & OBJECTIVE	TASK	2023				2024				2025				2026				2027				2028				2029				2030			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Local Competitive Grants	**Digital Skills Program**																																	
	Objective 6.1: Increase the percentage of households reporting their use of a personal computer at home. **Objective 6.2:** Increase the percentage of households reporting their use of the internet to access health or government services. **Objective 6.3:** Increase percentage of households using the internet for online training.	Program Design			■	■																													
	Objective 6.4: Increase percentage of households using the internet for educational needs. **Objective 6.5:** Increase percentage of households using the internet to search/apply for jobs. **Objective 6.6:** Fund 3 programs annually that upskill eligible prisoners to prepare them for release by 2028.	Application Review						■																											
	Objective 6.7: Conduct 150 OPC focused training sessions in 2025, 250 in 2026, 350 in 2027, 400 in 2028. **Objective 6.8:** Require 100% of OBD supported digital skills programming to include sections on OPC by 2025. **Objective 6.9:** Conduct 4 or more online privacy and cybersecurity skills training events per county (may be virtual) annually through 2028.	Program Implementation								■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■						
	Objective 6.10: Reduce by 50% the total number of persons reporting personal information security, privacy, and computer viruses as major concerns when engaging online.	Reporting					■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				

Chapter 5:
Conclusion

Missouri Department of
Economic Development

5 Conclusion

The DEA represents the single largest investment in the pursuit of digital equity in the nation's history. While NTIA has yet to release individual states' allocations for the State Digital Equity Capacity Grant, some current estimates have Missouri's share exceeding $20,000,000. The Act is a recognition of historic imbalances for some communities in access to the tools and skills necessary for one to be a fully active member of modern society. The State of Missouri strives to be a state where all citizens can realize their full social, academic, and economic potential. This plan is intended to serve as the catalyst for the realization of that reality within the broadband world.

The BEAD program will enable the expansion of broadband to hundreds of thousands of Missourians who lack physical access to the internet. Physical access alone does not necessarily bridge the digital divide. OBD will utilize the DEA to ensure equal access for all.

The digital divide remains one of the defining challenges of the 21st century, and the work required to ensure equal access to digital opportunities cannot be accomplished by any one entity alone. OBD is committed to partnering with concerned Missourians of all walks of life to ensure that the funds reach those most in need. The contributions of various partners to this work will help support OBD to *Connect all Missourians*.

In addition to the support of key partners throughout the writing process, this plan was made possible due to the enthusiastic contributions of the public. OBD acknowledges that public support is crucial to the success of any program. It is the intention of OBD to continue to elicit the input of the public in all efforts throughout the life of the DEA.

The task ahead for the State to accomplish will be challenging. However, the activities that will be enabled by the DEA represent an opportunity for the State of Missouri to expand prosperity for all its citizens. OBD will use all the tools at its disposal to implement the actions specified within this plan and build a better, more prosperous Missouri for all.

Chapter 6:
Appendix

Missouri Department of
Economic Development

6 Appendix

6.1 *Collaborating Entities*

The composition of this report required cooperation and collaboration between several entities across the State of Missouri, all of whom contributed valuable time, work, and expertise to this endeavor. Without their contributions this report would not exist. In recognition of their contributions to this report DED/OBD would like to thank the following:

AARP

Adobe

Allero Telecom

Area Agency on Aging

ASL Now

aSTEAM Village Inc.

Black Family Technology Awareness Association

Boonslick Regional Planning Commission

Bootheel Regional Planning and Economic Development Commission

Center for Applied Research and Engagement (CARES)

City of Kansas City

Community Action Missouri

Concordance

Digital Equity Center (ME)

East-West Gateway Council of Governments

Education Superhighway

Entrepreneur's Church

Essential Families

Federal Reserve Bank of Kansas City

Federal Reserve Bank of St. Louis

Green Hills Regional Planning Commission

Harry S. Truman Coordinating Council

Hispanic Economic Development Corporation

Jefferson Franklin Community Action Corporation

Kaysinger Basin Regional Planning Commission

KC Digital Drive

KC Public Libraries

Lake of the Ozarks Council of Local Governments

Latinx Education Collaborative

LOUIS: Louisiana Library Network

Mark Twain Regional Council of Governments

Meramec Community Enhancement Corporation

Meramec Regional Planning Commission

Mid-America Regional Council

Mid-Missouri Regional Planning Commission

Missouri Association of Councils of Government

Missouri Farm Bureau

Missouri Foundation for Health

MO Department of Elementary and Secondary Education

MO Primary Care Association

MO State Libraries

Mo-Kan Regional Council

MOREnet

National Digital Inclusion Alliance

Northeast Missouri Regional Planning Commission

Northwest Missouri Regional Council of Governments:

Npower

Ozark Foothills Regional Planning Commission

Ozarks Area Community Action Corporation

PCs for People

Pioneer Trails Regional Planning Commission

Polk County MO Cares

South Central Ozark Council of Governments

Southeast Missouri Regional Planning and Economic Development Commission

Southwest Missouri Council of Governments

St. Louis County Libraries

Tech STL

The University of Missouri Extension

The University of Missouri System

U.S. Department of Education (Office of Education Technology)

University of Kansas

Urban Summit

Verizon

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- The Missouri Office of Broadband Development.
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6.3 MO Broadband Internet Survey Questions

The survey questions below were preceded by an introductory page with additional information such as the principal researcher and University of Missouri Institutional Review Board contact information.

The survey had a maximum of 23 questions. Some questions were presented dependent on responses to previous questions.

Block 1: Internet Service

Q1. Which of the following <u>devices</u> are used in your home? Check all that apply.

Smartphone
Tablet
Personal Computer (laptop/desktop)
Other (Smart TV, Gaming console)
None

Q2. What would you be <u>willing to pay</u> to buy or replace a laptop, desktop, or tablet?

Less than $100
$100 - $249.99
$250 - $499.99
$500 - $749.99
$750 - $999.99
$1,000 or more
Not willing to pay for these devices

Q3. Did you pay for a <u>home internet subscription</u> at any time over the past 12 months?

Yes
No - internet service not available where I live
No - chose not to purchase internet services
No - do not know if internet services are available

Q4. Why did you not purchase home internet services? Check all that apply.

Internet is too slow for browsing, video/gaming, or file transfer use

Internet is too expensive

Internet is not reliable

Only use smartphone

No challenges OR Do not need internet services

Q5. What type of home internet service did you subscribe to? Select one.

Fiber optic

Cable

DSL

Satellite

Fixed wireless antenna

Cellular data plan or hotspot

Dial-up phone line

Do not know

Q6. For your home internet cost, do you pay for internet only or bundled services (like TV channels or phone services)?

Internet only

Bundle (Internet + other services)

Q7. What is your monthly internet cost? OR What would you be willing to pay for monthly internet that meets your needs?

Less than $10

$10 - $25

$25 - $49.99

$50 - $74.99

$75 - $99.99

$100 or more

Not willing to pay for internet service

Block 2: Internet Activities

Q8. Have you or others in your household used the internet at home for the following work activities in the past 12 months? Check all that apply

Work remotely at least one day a week

Teleconference (i.e. Zoom)

Running my business (i.e. selling online, gig work)

Online training course(s)

Search or apply for a job

Did none of these work activities OR Would not use for these work activities

Q9. Have you or others in your household used the internet at home for the following activities in the past 12 months? Check all that apply.

Email

Online shopping

Social networking (i.e. Instagram)

Streaming entertainment (i.e. video, games)

Banking or paying bills

Educational needs (i.e. homework, classes)

Government services (i.e. library, renew license)

Health services (i.e. telehealth, patient portal)

Did none of these activities OR Would not use internet

Block 3: Internet Assistance

Q10. In which of the following areas would <u>training or assistance</u> interest you or others in your household? Check all that apply.

- Setting up or using new devices
- Finding information and resources I trust
- Using devices/internet to connect with family and friends
- Using the internet to buy things or services
- Managing and paying bills online
- Accessing health care resources online
- Accessing education resources online
- Gaining job skills online
- Using devices/internet to start or manage a business
- Not interested in any of these topics

Q11. Apart from family or friends, where would you or others in your household be likely to go for internet or device assistance? Check all that apply.

 Local government (i.e. libraries, schools)

 Community organization (i.e. church)

 My internet service provider

 Local technology business or retailer

 My work or coworkers

 Online resources (i.e. YouTube)

 Do not need assistance

Q12. Which concerns do you have about <u>internet use</u>? Check all that apply.

 Security of personal information (i.e. identity theft, getting hacked)

 Negative influences (i.e. cyberbullying)

 Getting viruses on my computer

 Websites tracking me/us

 Misleading information

 Surveillance

 No concerns

Block 4: Background

Q13. What zip code do you live in?

 Zip code:

Q14. What is your gender?

 Male

 Female

 Prefer to self-describe _____

 Prefer not to answer

Q15. How old are you?

18-24
25-34
35-44
45-54
55-64
65 and over
Prefer not to answer

Q16. Are you of Hispanic, Latino, or Spanish origin?

Yes
No
Prefer not to answer

Q17. How would you describe yourself? Check all that apply.

White

Black or African American

American Indian or Alaska Native

Asian-American or Asian

Native Hawaiian or Other Pacific Islander

Other

Prefer not to answer

Q18. What is the highest level of education you have completed?

Less than high school degree

High school degree or equivalent (GED)

Some college but no degree

Associate's/Technical degree or Apprenticeship

Bachelor's degree or above

Prefer not to answer

Q19. Did you face any of these employment challenges last year? Check all that apply.

Have a disability

Have limited English speaking or reading ability

Have been incarcerated either last year or in prior years

Have been homeless at times

No - none of these challenges

Prefer not to answer

Q20. Last year, which category best described your employment status?

Worked as a full-time paid employee
Worked as a part-time paid employee
Worked as self-employed business owner
Did not work but was looking for job
No paid work for other reason (in school, care for others, disabled, etc.)
Retired
Prefer not to answer

Q21. Last year, what was your total household income (total of all individuals in your household)?

Less than $35,000
$35,000 to under $74,999
$75,000 to under $99,999
$100,000 or more
Prefer not to answer

Q22. Are any of the following groups in your household? Check all that apply.

A child under 18 years in age

A current or former U.S. armed forces service member

A person with a disability

A person with limited English speaking or reading ability

A person that has been incarcerated at times

A person that has been homeless at times

⊗No one in household meets these criteria

⊗Prefer not to answer

Q23. Additional comments on internet availability or assistance needs?

The anonymous survey asked Missouri respondents up to 12 questions regarding their home internet services, devices used to access services, internet activities, interest in assistance and concerns with internet usage. Eleven additional questions were asked about the respondent's background.

The tables presented on the following pages show the share of respondents' answers to the 12 internet-related questions grouped by:

- **Internet Service Access and Adoption**
- **Internet Activities**
- **Internet Assistance and Concerns**

The tables present the survey results by an unweighted average of all responses, a household income weighted average and 29 population sub-groups. The household income weighted average is shown to better reflect the overall state population, as respondents generally had a higher income and education level than the typical Missourian. Adjusting the overall average to represent the share of Missouri households in four income brackets increased the representation of lower-income, lower-educational attainment and Non-White respondents.

Population sub-groups' figures are shown if a question received at least 50 responses. This threshold is used so that some data on smaller sub-groups, such as households with limited English ability, can be shown to assist with broadband planning efforts.

Sub-group respondent levels and margin of error (ME) estimates are provided in Exhibit B1. Smaller-response groups are noted with an ME greater than 5.0% indicating that only answers substantially different from the average are meaningful given the higher error levels.

Exhibit B1. Respondent Numbers and Margin of Error (ME) Estimates

Groups	Survey Respond-ents	ME*
Completed Surveys	7,504	1.0%
Household Income		
Less than $35,000	1,087	2.5%
$35,000 to under $74,999	1,874	1.9%
$75,000 to under $99,999	1,164	2.4%
$100,000 or more	1,897	1.9%
Age		
18-34	825	2.9%
35-64	4,259	1.3%
65 and over	2,147	1.8%
Race or Ethnicity		
White, alone	6,325	1.0%
Non-White	605	3.4%
Black or African American, alone	283	4.9%
Hispanic, Latino, or Spanish origin**	127	7.3%
Educational Attainment		
High school degree or GED	808	2.9%
Some college but no degree	1,353	2.2%
Associate's/Tech. degree	935	2.7%
Bachelor's degree or above	4,119	1.3%
Employment Characteristics		
Employed either full- or part-time	4,157	1.3%
Self-employed business owner	618	3.3%
Faced any employment challenge	905	2.7%
Selected Household (HH) Characteristics		
HH with child under 18 years in age	2,068	1.8%
HH with current or former U.S. armed forces member	1,102	2.5%
HH with a person that has a disability	1,528	2.1%
HH with person that has limited English ability**	97	8.4%
HH with person that has been incarcerated at times**	133	7.1%
HH with person that has been homeless at times**	227	5.4%
Area		
Metro	4,322	1.3%
Nonmetro	3,055	1.5%
Higher Access: > Half Locations with 25/3+ Mbps	6,442	1.0%
Low Access: < Half Locations with 25/3+ Mbps	1,062	2.5%
Smartphone Only		
Smartphone Only	434	4.0%

*Margin of error (ME) at 90% confidence level. ** Smaller-response groups have a ME > 5.0% so only substantially different responses

Internet Service Access and Adoption – Questions 1 and 2 Tables

Questions about devices at home and willingness to pay for a laptop, desktop or tablet.

	Q1. Which of the following devices are used in your home?		Q2. What would you be willing to pay to buy or replace a laptop, desktop, or tablet?						
	Have a personal computer at home	Smart-phone Only	Less than $100	$100 - $249	$250 - $499	$500 - $749	$750 - $999	$1,000 or more	Not willing to pay for these devices
Unweighted Responses	89.4%	5.4%	5.8%	18.5%	27.5%	17.5%	11.1%	12.8%	6.7%
Weighted Responses by Household Income	**88.4%**	**6.2%**	**7.2%**	**19.9%**	**27.1%**	**16.8%**	**10.2%**	**12.6%**	**6.2%**
Household Income									
Less than $35,000	78%	12%	17%	28%	23%	9%	5%	6%	12%
$35,000 to under $74,999	89%	5%	5%	23%	31%	18%	9%	9%	5%
$75,000 to under $99,999	93%	4%	2%	17%	31%	20%	12%	13%	3%
$100,000 or more	96%	2%	1%	9%	26%	21%	16%	24%	3%
Age									
18-34	89%	6%	5%	18%	25%	16%	13%	19%	4%
35-64	90%	5%	6%	18%	28%	18%	11%	13%	6%
65 and over	90%	4%	4%	19%	28%	19%	11%	11%	7%
Race or Ethnicity									
White, alone	91%	5%	5%	18%	28%	18%	12%	13%	5%
Non-White	85%	8%	11%	24%	22%	15%	6%	12%	10%
Black or African American, alone	81%	10%	12%	28%	24%	12%	5%	10%	10%
Hispanic, Latino, or Spanish origin*	84%	9%	7%	29%	17%	16%	10%	13%	7%
Educational Attainment									
High school degree or GED	82%	10%	10%	27%	29%	11%	6%	5%	11%
Some college but no degree	86%	7%	8%	23%	27%	17%	8%	9%	8%
Associate's/Tech. degree	88%	7%	8%	22%	28%	17%	10%	8%	8%
Bachelor's degree or above	94%	3%	3%	14%	28%	20%	14%	17%	3%
Employment Characteristics									
Employed either full- or part-time	91%	5%	5%	17%	29%	18%	12%	15%	5%
Self-employed business owner	94%	3%	4%	13%	27%	20%	12%	19%	5%
Any employment challenge	75%	9%	15%	24%	23%	11%	7%	8%	11%
Selected Household Characteristics									
A child under 18 years in age	91%	4%	6%	20%	30%	16%	10%	14%	5%
A current or former U.S. armed forces member	93%	4%	4%	19%	27%	19%	12%	13%	6%
A person with a disability	87%	6%	10%	23%	26%	15%	9%	10%	8%
A person with limited English ability*	86%	9%	12%	19%	16%	21%	6%	11%	14%
A person that has been incarcerated at times*	88%	8%	17%	34%	17%	12%	7%	4%	9%
A person that has been homeless at times*	80%	10%	20%	29%	22%	6%	4%	10%	9%
Area									
Metro	91%	4%	5%	18%	26%	18%	13%	14%	6%
Nonmetro	89%	6%	6%	19%	30%	18%	10%	11%	6%
> Half of Served Locations with 25/3+ Mbps	89%	5%	6%	18%	27%	17%	12%	13%	7%
< Half of Served Locations with 25/3+ Mbps	89%	5%	5%	21%	31%	19%	8%	10%	6%
Smartphone Only									
Smartphone Only Respondents			21%	26%	19%	9%	3%	4%	18%

*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Service Access and Adoption – Questions 3 and 5 Tables

Questions about paying for internet services, availability and type of service subscribed to.

	Q3. Did you pay for a home internet subscription at any time over the past 12 months?					Q5. What type of home internet service did you subscribe to?							
	Answer		Why Did You Not Purchase Internet Services?										
	Yes	No	Internet service not available	Chose not to purchase	Do not know if available	Cable	Fiber optic	DSL	Satellite	Cellular data or hotspot	Fixed wireless antenna	Dial-up phone line	Do not know
Unweighted Responses	87.9%	12.1%	7.0%	3.7%	1.4%	25.0%	18.4%	15.8%	14.0%	9.3%	6.5%	1.2%	9.8%
Weighted Responses by Household Income	**86.5%**	**13.4%**	**7.5%**	**4.4%**	**1.6%**	**24.9%**	**18.1%**	**16.1%**	**14.1%**	**9.2%**	**6.4%**	**1.1%**	**10.0%**
Household Income													
Less than $35,000	78%	22%	9%	10%	3%	26%	13%	17%	14%	9%	5%	2%	14%
$35,000 to under $74,999	88%	12%	7%	4%	1%	24%	20%	16%	14%	10%	5%	1%	11%
$75,000 to under $99,999	89%	11%	9%	1%	1%	26%	18%	15%	15%	9%	8%	1%	7%
$100,000 or more	93%	7%	5%	1%	0%	25%	22%	15%	14%	9%	8%	1%	6%
Age													
18-34	86%	14%	8%	4%	2%	24%	23%	11%	12%	10%	5%	1%	15%
35-64	87%	13%	8%	4%	1%	23%	18%	17%	15%	10%	7%	1%	8%
65 and over	91%	9%	5%	3%	1%	28%	17%	15%	15%	8%	6%	2%	10%
Race or Ethnicity													
White, alone	88%	12%	7%	3%	1%	23%	19%	16%	15%	10%	7%	1%	9%
Non-White	89%	11%	4%	5%	1%	39%	18%	10%	7%	6%	5%	1%	14%
Black or African American, alone	93%	7%	0%	6%	1%	45%	19%	7%	5%	3%	4%	0%	16%
Hispanic, Latino, or Spanish origin*	87%	13%	6%	6%	2%	28%	23%	12%	8%	8%	6%	1%	14%
Educational Attainment													
High school degree or GED	82%	18%	9%	6%	3%	17%	12%	19%	19%	11%	7%	2%	13%
Some college but no degree	85%	15%	9%	5%	1%	24%	15%	17%	17%	10%	8%	1%	9%
Associate's/Tech. degree	85%	15%	9%	4%	1%	20%	16%	18%	17%	13%	7%	1%	7%
Bachelor's degree or above	91%	9%	6%	2%	1%	28%	21%	15%	12%	8%	6%	1%	9%
Employment Characteristics													
Employed either full- or part-time	88%	12%	8%	3%	1%	24%	20%	16%	13%	10%	7%	1%	8%
Self-employed business owner	89%	11%	8%	2%	1%	16%	18%	16%	20%	13%	9%	1%	7%
Any employment challenge	84%	16%	7%	7%	2%	25%	14%	19%	14%	8%	5%	1%	13%
Selected Household Characteristics													
A child under 18 years in age	87%	13%	9%	3%	1%	23%	17%	17%	16%	11%	7%	1%	8%
A current or former U.S. armed forces member	89%	11%	8%	2%	1%	23%	16%	19%	18%	9%	6%	1%	8%
A person with a disability	87%	13%	7%	4%	2%	26%	14%	17%	16%	9%	6%	1%	12%
A person with limited English ability*	83%	17%	9%	5%	2%	30%	21%	18%	10%	6%	3%	3%	10%
A person that has been incarcerated at times*	80%	20%	9%	8%	4%	25%	15%	13%	13%	13%	8%	3%	9%
A person that has been homeless at times*	79%	21%	7%	10%	4%	26%	14%	17%	13%	12%	6%	1%	12%
Area													
Metro	90%	10%	5%	4%	1%	32%	22%	14%	9%	7%	4%	1%	11%
Nonmetro	85%	15%	10%	3%	2%	14%	13%	20%	22%	12%	10%	2%	7%
> Half of Served Locations with 25/3+ Mbps	89%	11%	6%	4%	1%	28%	21%	15%	11%	9%	6%	1%	10%
< Half of Served Locations with 25/3+ Mbps	82%	18%	13%	3%	2%	5%	4%	24%	34%	14%	12%	2%	6%
Smartphone Only													
Smartphone Only Respondents	52%	48%	23%	18%	6%	22%	15%	9%	13%	14%	10%	2%	15%

*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Service Access and Adoption – Question 4 Table

Questions about home internet challenges of respondents with service and those who chose not to purchase available internet services from question 3.

	Q4. Any challenges to using the home internet? *Respondents with internet services*					Why did you not purchase home internet services? *Respondents that chose not to purchase internet*				
	Internet is not reliable	Internet is too expensive	Internet is too slow	No challenges	Reported any challenge	Internet is not reliable	Internet is too expensive	Internet is too slow	Only use smart-phone	Do not need internet services
Unweighted Responses	39.5%	43.8%	42.3%	28.6%	71.4%	26.0%	67.8%	25.6%	24.2%	9.0%
Weighted Responses by Household Income	**39.8%**	**46.3%**	**42.3%**	**27.2%**	**72.7%**	**30.5%**	**66.6%**	**32.1%**	**24.2%**	**6.0%**
Household Income										
Less than $35,000	37%	54%	43%	22%	78%	19%	77%	20%	23%	5%
$35,000 to under $74,999	40%	49%	42%	27%	73%	25%	71%	28%	34%	7%
$75,000 to under $99,999	40%	42%	42%	30%	70%	ND	ND	ND	ND	ND
$100,000 or more	41%	37%	42%	32%	68%	ND	ND	ND	ND	ND
Age										
18-34	43%	42%	41%	29%	71%	ND	ND	ND	ND	ND
35-64	44%	47%	46%	25%	75%	30%	72%	29%	22%	4%
65 and over	31%	39%	37%	33%	67%	20%	61%	16%	31%	13%
Race or Ethnicity										
White, alone	41%	43%	43%	28%	72%	30%	70%	28%	25%	6%
Non-White	30%	50%	34%	30%	70%	ND	ND	ND	ND	ND
Black or African American, alone	20%	51%	28%	36%	64%	ND	ND	ND	ND	ND
Hispanic, Latino, or Spanish origin*	34%	46%	41%	28%	72%	ND	ND	ND	ND	ND
Educational Attainment										
High school degree or GED	44%	47%	50%	20%	80%	19%	63%	25%	27%	4%
Some college but no degree	43%	47%	48%	24%	76%	29%	75%	29%	30%	6%
Associate's/Tech. degree	45%	50%	49%	24%	76%	ND	ND	ND	ND	ND
Bachelor's degree or above	37%	42%	38%	32%	68%	26%	69%	22%	25%	9%
Employment Characteristics										
Employed either full- or part-time	43%	45%	44%	27%	73%	28%	68%	31%	26%	7%
Self-employed business owner	47%	45%	50%	24%	76%	ND	ND	ND	ND	ND
Any employment challenge	43%	53%	44%	22%	78%	11%	75%	21%	28%	4%
Selected Household Characteristics										
A child under 18 years in age	48%	46%	50%	23%	77%	38%	69%	43%	25%	3%
A current or former U.S. armed forces member	44%	45%	50%	24%	76%	ND	ND	ND	ND	ND
A person with a disability	44%	51%	48%	21%	79%	18%	79%	24%	27%	4%
A person with limited English ability*	38%	44%	39%	30%	70%	ND	ND	ND	ND	ND
A person that has been incarcerated at times*	39%	58%	37%	29%	71%	ND	ND	ND	ND	ND
A person that has been homeless at times*	51%	59%	45%	20%	80%	ND	ND	ND	ND	ND
Area										
Metro	32%	43%	33%	35%	65%	17%	70%	17%	22%	11%
Nonmetro	52%	46%	57%	18%	82%	45%	67%	46%	31%	2%
> Half of Served Locations with 25/3+ Mbps	36%	43%	38%	32%	68%	22%	67%	21%	24%	10%
< Half of Served Locations with 25/3+ Mbps	63%	51%	71%	8%	92%	53%	72%	58%	28%	3%
Smartphone Only										
Smartphone Only Respondents	32%	37%	40%	33%	67%	23%	68%	18%	37%	5%

ND is not disclosed due to less than 50 responses to this question in the sub-group.
*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Service Access and Adoption – Questions 6 and 7 Tables

Questions about monthly internet cost without bundled entertainment services, from question 6, to isolate internet-only expenditures and willingness to pay (for respondents without internet service).

| | Q7. What is your monthly internet cost? | | | | | What would you be willing to pay for monthly internet that meets your needs? | | | | | | |
| | Respondents with internet-only services in Q6 | | | | | Respondents who did not have internet services | | | | | | |
	Less than $25	$25 - $49.99	$50 - $74.99	$75 - $99.99	$100 or more	Less than $10	$10 - $25	$25 - $49.99	$50 - $74.99	$75 - $99.99	$100 or more	Not willing to pay
Unweighted Responses	2.0%	13.3%	40.1%	25.5%	19.2%	8.1%	15.8%	28.8%	25.0%	10.4%	5.2%	6.7%
Weighted Responses by Household Income	**2.7%**	**13.7%**	**39.2%**	**25.3%**	**19.0%**	**7.0%**	**14.8%**	**27.0%**	**27.6%**	**12.1%**	**6.7%**	**4.7%**
Household Income												
Less than $35,000	7%	19%	37%	22%	15%	17%	26%	26%	15%	3%	1%	13%
$35,000 to under $74,999	1%	14%	43%	25%	17%	5%	18%	34%	25%	11%	5%	2%
$75,000 to under $99,999	0%	12%	40%	29%	18%	0%	7%	31%	38%	17%	7%	0%
$100,000 or more	1%	9%	37%	27%	26%	2%	5%	18%	38%	21%	14%	2%
Age												
18-34	2%	12%	42%	27%	17%	5%	7%	23%	36%	14%	8%	7%
35-64	2%	11%	39%	26%	21%	7%	17%	28%	25%	11%	6%	5%
65 and over	1%	18%	41%	23%	16%	10%	18%	37%	21%	5%	4%	6%
Race or Ethnicity												
White, alone	1%	13%	40%	26%	20%	6%	16%	30%	26%	11%	6%	4%
Non-White	7%	14%	42%	23%	14%	19%	21%	22%	13%	0%	3%	22%
Black or African American, alone	12%	16%	44%	23%	5%	ND	ND	ND	ND	ND	ND	ND
Hispanic, Latino, or Spanish origin*	4%	8%	38%	25%	26%	ND	ND	ND	ND	ND	ND	ND
Educational Attainment												
High school degree or GED	3%	14%	37%	26%	20%	13%	17%	35%	20%	5%	4%	6%
Some college but no degree	3%	14%	40%	24%	19%	5%	16%	31%	28%	10%	4%	7%
Associate's/Tech. degree	2%	12%	36%	26%	24%	8%	16%	30%	25%	10%	6%	4%
Bachelor's degree or above	1%	13%	41%	26%	18%	6%	16%	27%	28%	13%	7%	4%
Employment Characteristics												
Employed either full- or part-time	1%	11%	41%	27%	20%	5%	15%	29%	29%	13%	6%	3%
Self-employed business owner	1%	15%	37%	25%	23%	3%	14%	28%	29%	6%	19%	1%
Any employment challenge	6%	16%	38%	22%	17%	17%	26%	26%	13%	4%	0%	15%
Selected Household Characteristics												
A child under 18 years in age	1%	9%	38%	26%	25%	4%	15%	28%	26%	15%	8%	4%
A current or former U.S. armed forces member	1%	13%	35%	27%	24%	6%	14%	33%	24%	10%	11%	2%
A person with a disability	4%	15%	36%	25%	20%	10%	23%	30%	18%	7%	4%	9%
A person with limited English ability*	2%	13%	44%	15%	25%	ND	ND	ND	ND	ND	ND	ND
A person that has been incarcerated at times*	3%	13%	46%	21%	18%	ND	ND	ND	ND	ND	ND	ND
A person that has been homeless at times*	5%	17%	35%	24%	19%	ND	ND	ND	ND	ND	ND	ND
Area												
Metro	3%	14%	43%	26%	15%	11%	19%	26%	22%	7%	5%	11%
Nonmetro	1%	12%	37%	26%	25%	4%	13%	33%	30%	13%	6%	2%
> Half of Served Locations with 25/3+ Mbps	2%	14%	42%	26%	17%	10%	15%	29%	22%	10%	5%	8%
< Half of Served Locations with 25/3+ Mbps	0%	10%	31%	25%	34%	2%	18%	26%	35%	12%	5%	1%
Smartphone Only												
Smartphone Only Respondents	7%	20%	37%	22%	14%	14%	21%	28%	20%	5%	1%	10%

ND is not disclosed due to less than 50 responses to this question in the sub-group.
*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Activities – Question 8 Table

Questions about using the home internet for work activities for those with and without internet services. Comparing activities of respondents with internet access to the desired uses of respondents without access shows where expectations differ from reality.

	Q8. Have you or others in your household used the internet at home for the following work activities in the past 12 months? *Respondents with internet services*						If you could have the internet at home, which work activities would you or others in your household like to use it for? *Respondents without internet services*					
	Work remotely at least one day a week	Tele-conference	Search and apply for a job	Online training course(s)	Running my business	Did none of these work activities	Work remotely at least one day a week	Tele-conference	Search and apply for a job	Online training courses	Running my business	Would not use for these work activities
Unweighted Responses	49.8%	55.9%	28.7%	43.7%	22.0%	24.1%	48.4%	45.9%	30.8%	48.4%	34.9%	23.5%
Weighted Responses by Household Income	**47.6%**	**55.2%**	**32.0%**	**44.1%**	**22.4%**	**23.6%**	**51.7%**	**49.6%**	**31.9%**	**50.9%**	**37.6%**	**20.6%**
Household Income												
Less than $35,000	26%	40%	38%	34%	19%	34%	37%	31%	38%	46%	31%	30%
$35,000 to under $74,999	45%	50%	30%	44%	23%	26%	46%	47%	30%	51%	33%	23%
$75,000 to under $99,999	52%	58%	31%	46%	22%	20%	57%	57%	26%	54%	43%	13%
$100,000 or more	71%	75%	29%	53%	26%	11%	70%	68%	31%	54%	47%	12%
Age												
18-34	64%	67%	50%	53%	26%	8%	56%	50%	35%	52%	41%	14%
35-64	61%	65%	36%	52%	25%	14%	57%	53%	36%	56%	39%	16%
65 and over	25%	38%	8%	27%	15%	47%	24%	31%	15%	32%	24%	46%
Race or Ethnicity												
White, alone	49%	56%	27%	43%	22%	25%	50%	47%	30%	49%	35%	23%
Non-White	55%	62%	44%	51%	20%	15%	43%	48%	38%	52%	33%	24%
Black or African American, alone	52%	60%	45%	46%	14%	17%	ND	ND	ND	ND	ND	ND
Hispanic, Latino, or Spanish origin*	57%	64%	49%	55%	29%	10%	ND	ND	ND	ND	ND	ND
Educational Attainment												
High school degree or GED	29%	30%	24%	27%	18%	40%	36%	29%	24%	39%	22%	36%
Some college but no degree	41%	44%	27%	37%	21%	32%	44%	40%	25%	43%	32%	28%
Associate's/Tech. degree	42%	48%	32%	44%	24%	27%	43%	38%	30%	49%	37%	28%
Bachelor's degree or above	58%	67%	30%	50%	23%	17%	61%	64%	36%	58%	43%	13%
Employment Characteristics												
Employed either full- or part-time	67%	68%	38%	55%	21%	11%	60%	55%	34%	55%	35%	16%
Self-employed business owner	58%	64%	23%	52%	72%	5%	55%	59%	23%	61%	80%	7%
Any employment challenge	37%	50%	43%	43%	22%	27%	47%	41%	43%	50%	36%	25%
Selected Household Characteristics												
A child under 18 years in age	66%	70%	42%	57%	28%	8%	63%	59%	36%	60%	45%	12%
A current or former U.S. armed forces member	44%	55%	28%	46%	21%	27%	49%	47%	25%	54%	37%	24%
A person with a disability	43%	55%	37%	46%	23%	26%	49%	50%	41%	51%	39%	24%
A person with limited English ability*	50%	65%	42%	53%	33%	17%	ND	ND	ND	ND	ND	ND
A person that has been incarcerated at times*	38%	58%	56%	46%	30%	15%	ND	ND	ND	ND	ND	ND
A person that has been homeless at times*	49%	62%	62%	58%	24%	16%	ND	ND	ND	ND	ND	ND
Area												
Metro	53%	59%	31%	44%	19%	23%	47%	46%	33%	46%	31%	26%
Nonmetro	46%	53%	26%	44%	26%	24%	51%	47%	28%	52%	40%	20%
> Half of Served Locations with 25/3+ Mbps	50%	57%	29%	44%	21%	24%	47%	46%	32%	47%	33%	24%
< Half of Served Locations with 25/3+ Mbps	47%	51%	26%	44%	26%	25%	53%	47%	27%	53%	43%	20%
Smartphone Only												
Smartphone Only Respondents	32%	34%	23%	20%	11%	39%	40%	36%	32%	40%	26%	28%

ND is not disclosed due to less than 50 responses to this question in the sub-group.
*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Activities – Question 9 Table

Questions about using the home internet for communication, financial and service activities for those with and without internet services. Comparing activities of respondents with internet access to the desired uses of respondents without access can show where expectations differ from reality.

	Q9. Have you or others in your household used the internet at home for the following activities in the past 12 months? Respondents with internet services									If you could have the internet at home, which activities would you or others in your household like to use it for? Respondents without internet services								
	Email	Online shopping	Social net-working	Stream entertain-ment	Banking or paying bills	Educ. needs	Gov. services	Health services	Did none of these activities	Email	Online shopping	Social net-working	Stream entertain-ment	Banking or paying bills	Educ. needs	Gov. services	Health services	Would not use internet
Unweighted Responses	98.8%	96.1%	81.4%	77.8%	92.0%	52.9%	72.1%	72.0%	0.2%	91.3%	83.2%	66.5%	76.5%	80.0%	60.1%	70.8%	70.3%	2.0%
Weighted Responses by Household Income	98.9%	96.2%	82.6%	78.8%	92.6%	54.1%	71.9%	72.4%	0.1%	93.0%	85.7%	70.9%	81.4%	83.2%	63.5%	73.4%	73.2%	0.9%
Household Income																		
Less than $35,000	98%	93%	76%	72%	89%	48%	65%	67%	0%	87%	73%	60%	75%	70%	51%	69%	68%	1%
$35,000 to under $74,999	99%	97%	82%	76%	92%	51%	70%	71%	0%	94%	89%	70%	83%	84%	63%	73%	75%	0%
$75,000 to under $99,999	99%	99%	85%	81%	95%	56%	74%	72%	0%	98%	95%	80%	89%	96%	70%	78%	75%	0%
$100,000 or more	99%	99%	89%	87%	97%	63%	81%	80%	0%	96%	90%	79%	84%	90%	74%	77%	76%	2%
Age																		
18-34	99%	98%	95%	96%	95%	68%	75%	74%	0%	96%	87%	84%	90%	89%	78%	70%	72%	0%
35-64	99%	97%	88%	85%	94%	63%	73%	73%	0%	92%	86%	70%	84%	85%	69%	73%	73%	1%
65 and over	99%	96%	67%	60%	89%	30%	70%	73%	0%	90%	82%	53%	59%	67%	31%	73%	70%	2%
Race or Ethnicity																		
White, alone	99%	97%	83%	78%	93%	52%	72%	73%	0%	93%	86%	70%	80%	82%	60%	73%	73%	1%
Non-White	98%	91%	76%	75%	88%	63%	74%	73%	0%	84%	80%	50%	63%	64%	63%	70%	61%	5%
Black or African American, alone	98%	88%	69%	68%	86%	56%	68%	71%	0%	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hispanic, Latino, or Spanish origin*	100%	95%	83%	78%	89%	69%	73%	66%	0%	ND	ND	ND	ND	ND	ND	ND	ND	ND
Educational Attainment																		
High school degree or GED	98%	94%	78%	70%	85%	37%	53%	58%	0%	88%	78%	57%	76%	66%	46%	64%	59%	3%
Some college but no degree	99%	96%	80%	73%	91%	45%	64%	69%	0%	90%	84%	69%	77%	81%	53%	73%	72%	2%
Associate's/Tech. degree	99%	96%	86%	79%	93%	54%	71%	73%	0%	90%	84%	65%	83%	79%	68%	63%	73%	1%
Bachelor's degree or above	100%	98%	83%	81%	94%	59%	80%	77%	0%	96%	89%	74%	80%	89%	69%	79%	77%	1%
Employment Characteristics																		
Employed either full- or part-time	99%	97%	89%	86%	94%	63%	73%	72%	0%	93%	87%	71%	83%	87%	71%	72%	73%	1%
Self-employed business owner	99%	97%	85%	78%	93%	61%	74%	71%	0%	97%	88%	71%	83%	91%	67%	78%	70%	0%
Any employment challenge	99%	95%	81%	78%	92%	54%	73%	77%	0%	89%	75%	64%	76%	70%	51%	70%	74%	3%
Selected Household Characteristics																		
A child under 18 years in age	99%	97%	93%	93%	95%	85%	74%	75%	0%	93%	88%	74%	90%	90%	91%	76%	77%	1%
A current or former U.S. armed forces member	99%	97%	80%	74%	92%	50%	74%	74%	0%	93%	89%	69%	81%	85%	59%	75%	73%	2%
A person with a disability	99%	96%	82%	79%	92%	55%	76%	80%	0%	92%	84%	69%	81%	80%	57%	74%	81%	2%
A person with limited English ability*	99%	94%	81%	80%	87%	76%	72%	63%	1%	ND	ND	ND	ND	ND	ND	ND	ND	ND
A person that has been incarcerated at times*	99%	96%	87%	82%	93%	62%	76%	75%	0%	ND	ND	ND	ND	ND	ND	ND	ND	ND
A person that has been homeless at times*	100%	96%	87%	88%	96%	66%	78%	84%	0%	ND	ND	ND	ND	ND	ND	ND	ND	ND
Area																		
Metro	99%	96%	79%	78%	93%	54%	78%	76%	0%	89%	80%	63%	72%	76%	59%	70%	67%	3%
Nonmetro	99%	97%	86%	78%	92%	52%	64%	67%	0%	94%	88%	72%	83%	85%	62%	73%	75%	0%
> Half of Served Locations with 25/3+ Mbps	99%	96%	80%	78%	92%	53%	73%	72%	0%	91%	81%	65%	74%	79%	60%	69%	69%	2%
< Half of Served Locations with 25/3+ Mbps	99%	98%	88%	78%	94%	52%	66%	69%	0%	93%	93%	72%	84%	85%	62%	76%	76%	1%
Smartphone Only																		
Smartphone Only Respondents	92%	83%	74%	71%	80%	41%	49%	63%	0%	84%	72%	55%	69%	68%	49%	59%	62%	1%

ND is not disclosed due to less than 50 responses to this question in the sub-group.
*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Assistance and Concerns – Question 10 Table

Question about interest in internet, device or resource training or assistance.

	Q10. In which of the following areas would training or assistance interest you or your household?									
	Setting up or using new devices	Finding info. and resources I trust	Using devices or internet to connect with family & friends	Using the internet to buy things or services	Managing and paying bills online	Accessing health care resources online	Accessing educ. resources online	Gaining job skills online	Using devices or internet to start or manage a business	Not interested in any of these topics
Unweighted Responses	28.0%	31.0%	19.7%	17.5%	18.3%	22.2%	20.8%	18.5%	16.6%	46.0%
Weighted Responses by Household Income	**28.5%**	**32.8%**	**21.4%**	**19.1%**	**20.3%**	**24.7%**	**22.9%**	**21.0%**	**18.5%**	**43.7%**
Household Income										
Less than $35,000	37%	46%	32%	28%	30%	37%	33%	30%	23%	29%
$35,000 to under $74,999	30%	33%	22%	20%	20%	24%	23%	21%	19%	42%
$75,000 to under $99,999	25%	26%	17%	17%	17%	20%	18%	18%	16%	48%
$100,000 or more	20%	22%	12%	10%	11%	14%	15%	14%	15%	59%
Age										
18-34	12%	21%	15%	14%	16%	19%	23%	27%	20%	56%
35-64	22%	26%	17%	15%	17%	20%	20%	22%	19%	51%
65 and over	46%	43%	26%	23%	22%	28%	21%	9%	10%	33%
Race or Ethnicity										
White, alone	27%	30%	19%	17%	17%	21%	19%	17%	15%	48%
Non-White	35%	42%	29%	28%	28%	33%	35%	36%	29%	30%
Black or African American, alone	42%	52%	35%	34%	34%	40%	40%	44%	33%	18%
Hispanic, Latino, or Spanish origin*	34%	37%	24%	22%	26%	30%	41%	39%	28%	32%
Educational Attainment										
High school degree or GED	30%	36%	30%	28%	25%	28%	20%	19%	15%	40%
Some college but no degree	32%	36%	25%	22%	23%	26%	23%	21%	19%	41%
Associate's/Tech. degree	29%	32%	22%	21%	22%	25%	25%	23%	20%	44%
Bachelor's degree or above	26%	28%	15%	12%	14%	19%	19%	16%	16%	50%
Employment Characteristics										
Employed either full- or part-time	20%	25%	16%	14%	16%	19%	19%	21%	17%	53%
Self-employed business owner	28%	31%	19%	18%	19%	22%	24%	21%	31%	43%
Any employment challenge	36%	45%	32%	29%	31%	38%	36%	33%	29%	29%
Selected Household Characteristics										
A child under 18 years in age	16%	22%	15%	14%	15%	18%	23%	23%	20%	55%
A current or former U.S. armed forces member	32%	38%	24%	21%	23%	26%	22%	17%	17%	41%
A person with a disability	34%	39%	25%	22%	24%	31%	29%	25%	23%	36%
A person with limited English ability*	34%	38%	27%	25%	28%	34%	47%	39%	37%	33%
A person that has been incarcerated at times*	26%	41%	27%	20%	23%	36%	41%	41%	32%	33%
A person that has been homeless at times*	36%	45%	32%	23%	31%	39%	40%	45%	37%	28%
Area										
Metro	28%	31%	17%	15%	16%	21%	21%	20%	16%	45%
Nonmetro	27%	30%	23%	21%	21%	24%	20%	16%	18%	48%
> Half of Served Locations with 25/3+ Mbps	28%	31%	19%	16%	17%	22%	21%	19%	16%	46%
< Half of Served Locations with 25/3+ Mbps	29%	32%	26%	24%	24%	26%	22%	18%	19%	45%
Smartphone Only										
Smartphone Only Respondents	37%	39%	32%	28%	26%	30%	28%	26%	18%	34%

*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

Internet Assistance and Concerns – Question 11 Table

Question about where respondents or others in household would likely go to for internet or device assistance outside of family and friends.

	Q11. Apart from family or friends, where would you or others in your household be likely to go for internet or device assistance?						
	Local gov. (i.e. libraries, schools)	Community org. (i.e. church)	My internet service provider	Local technology business or retailer	My work or coworkers	Online resources (i.e. YouTube)	Do not need assistance
Unweighted Responses	25.3%	7.5%	41.0%	19.1%	28.2%	56.7%	17.1%
Weighted Responses by Household Income	**27.0%**	**8.1%**	**40.9%**	**18.6%**	**27.7%**	**57.6%**	**16.1%**
Household Income							
Less than $35,000	35%	12%	42%	18%	17%	56%	13%
$35,000 to under $74,999	30%	8%	41%	18%	30%	58%	16%
$75,000 to under $99,999	22%	7%	41%	19%	32%	58%	17%
$100,000 or more	17%	5%	39%	19%	35%	60%	20%
Age							
18-34	22%	5%	35%	14%	30%	58%	22%
35-64	24%	7%	39%	18%	35%	57%	18%
65 and over	29%	9%	49%	23%	15%	57%	13%
Race or Ethnicity							
White, alone	23%	7%	41%	19%	29%	57%	17%
Non-White	43%	14%	43%	19%	27%	56%	13%
Black or African American, alone	54%	16%	49%	18%	27%	55%	9%
Hispanic, Latino, or Spanish origin*	29%	16%	39%	17%	34%	59%	15%
Educational Attainment							
High school degree or GED	22%	9%	41%	13%	23%	45%	20%
Some college but no degree	25%	8%	42%	18%	24%	53%	18%
Associate's/Tech. degree	23%	8%	40%	18%	29%	57%	18%
Bachelor's degree or above	26%	7%	41%	21%	31%	61%	15%
Employment Characteristics							
Employed either full- or part-time	23%	6%	39%	18%	41%	57%	18%
Self-employed business owner	18%	6%	41%	25%	24%	58%	18%
Any employment challenge	39%	13%	44%	21%	22%	56%	13%
Selected Household Characteristics							
A child under 18 years in age	24%	8%	36%	18%	35%	57%	20%
A current or former U.S. armed forces member	27%	9%	46%	21%	24%	58%	17%
A person with a disability	33%	11%	44%	19%	25%	58%	14%
A person with limited English ability*	35%	13%	41%	11%	29%	54%	16%
A person that has been incarcerated at times*	35%	14%	42%	17%	28%	56%	17%
A person that has been homeless at times*	41%	18%	43%	21%	32%	65%	11%
Area							
Metro	30%	7%	41%	19%	27%	58%	16%
Nonmetro	19%	8%	41%	19%	30%	55%	18%
> Half of Served Locations with 25/3+ Mbps	26%	7%	41%	19%	28%	57%	17%
< Half of Served Locations with 25/3+ Mbps	22%	8%	41%	20%	29%	57%	18%
Smartphone Only							
Smartphone Only Respondents	40%	12%	28%	12%	27%	38%	18%

*Smaller-response population group has a margin of error above 5.0% s so only substantially different survey responses from the average are meaningful.

Internet Assistance and Concerns – Question 12 Table

Question about concerns with internet usage.

	Q12. Which concerns do you have about internet use?						
	Security of personal infor-mation	Negative influences (i.e. cyber-bullying)	Getting viruses on my computer	Websites tracking me/us	Misleading infor-mation	Surveillance	No concerns
Unweighted Responses	80.9%	28.7%	66.2%	65.3%	54.6%	44.3%	9.7%
Weighted Responses by Household Income	**79.7%**	**29.6%**	**65.3%**	**64.0%**	**55.6%**	**43.8%**	**10.1%**
Household Income							
Less than $35,000	81%	30%	69%	66%	60%	49%	9%
$35,000 to under $74,999	82%	29%	69%	67%	56%	44%	9%
$75,000 to under $99,999	79%	30%	64%	64%	54%	41%	9%
$100,000 or more	77%	29%	58%	60%	52%	39%	12%
Age							
18-34	65%	31%	42%	54%	49%	40%	18%
35-64	78%	31%	64%	63%	52%	43%	11%
65 and over	91%	22%	79%	72%	62%	46%	3%
Race or Ethnicity							
White, alone	80%	28%	65%	64%	54%	42%	10%
Non-White	83%	35%	71%	68%	60%	53%	8%
Black or African American, alone	86%	32%	76%	69%	60%	51%	7%
Hispanic, Latino, or Spanish origin*	83%	43%	72%	65%	64%	54%	6%
Educational Attainment							
High school degree or GED	81%	27%	68%	63%	50%	43%	12%
Some college but no degree	80%	26%	68%	65%	56%	46%	9%
Associate's/Tech. degree	79%	27%	67%	65%	54%	46%	11%
Bachelor's degree or above	82%	30%	66%	66%	56%	43%	9%
Employment Characteristics							
Employed either full- or part-time	77%	30%	60%	62%	51%	42%	12%
Self-employed business owner	78%	29%	69%	64%	54%	44%	11%
Any employment challenge	82%	33%	71%	66%	63%	54%	8%
Selected Household Characteristics							
A child under 18 years in age	72%	44%	54%	56%	49%	40%	15%
A current or former U.S. armed forces member	84%	29%	71%	67%	59%	47%	8%
A person with a disability	84%	34%	72%	69%	61%	51%	7%
A person with limited English ability*	84%	46%	76%	71%	66%	51%	7%
A person that has been incarcerated at times*	78%	37%	71%	65%	65%	50%	9%
A person that has been homeless at times*	80%	41%	67%	62%	68%	54%	8%
Area							
Metro	83%	31%	67%	66%	57%	46%	8%
Nonmetro	78%	26%	66%	64%	51%	42%	12%
> Half of Served Locations with 25/3+ Mbps	82%	30%	66%	66%	55%	45%	9%
< Half of Served Locations with 25/3+ Mbps	77%	24%	66%	64%	51%	43%	12%
Smartphone Only							
Smartphone Only Respondents	77%	30%	60%	58%	50%	44%	13%

*Smaller-response population group has a margin of error above 5.0% so only substantially different survey responses from the average are meaningful.

6.4 Missouri Digital Inclusion Asset Mapping: Focus Group Study

6.4.1 Census Data

	STATE OF MO	Columbia	Edina	Maryville	Eminence	Springfield	St. Louis County	Kansas City	Clinton	Kennett	St. Louis City
CITIES SELECTED	0	1	1	1	1	1	1	1	1	2	2
TYPE	0	1	2	2	2	1	1	1	2	2	1
TYPE2	ALL	Urban	Rural	Rural	Rural	Urban	Urban	Urban	Rural	Rural	Urban
REGION	.	2	2	3	4	5	6	7	8	4	6
REGION2	.	NORTHEAST	NORTHEAST	NORTHWEST	SOUTHEAST	SOUTHWEST	URBAN EAST	URBAN WEST	WEST CENTRAL	SOUTHEAST	URBAN EAST
RURAL URBAN COUNTY	0	4	2	3	2	4	4	4	3	3	4
CITY	STATE OF MO	Columbia	Edina	Maryville	Eminence	Springfield	St. Louis County	Kansas City	Clinton	Kennett	St. Louis City
COUNTY	#STATE OF MO	BOONE	KNOX	NODAWAY	SHANNON	GREENE	ST LOUIS	JACKSON	HENRY	DUNKLIN	CITY OF ST LOUIS
COUNTY2	.							CLAY, CASS, PLATTE			
CITY UM EXTENSION		Columbia	Edina	Maryville	Eminence	Springfield	Kirkwood	Kansas City	Clinton	Kennett	.
UM IN THE TOWN		1	1	1	1	1	1	1	1	1	0
COUNTY POP2020	6,154,913	183,610	3,744	21,241	7,031	298,915	1,004,125	717,204	21,946	28,283	301,578
UNSERVED	319,991	3,459	127	919	2,577	5,074	1,547	3,462	4,952	1,361	118
UNDERSERVED	176,975	3,598	2,633	640	1,938	1,298	1,662	2,761	1,462	74	182
SERVED	1,989,985	51,370	456	9,484	22	103,685	347,660	245,410	5,041	13,315	103,564
PERCENT_SERVED	0.8001705703	0.8792168005	0.1417910448	0.8588245948	0.004849019176	0.9421027286	0.9908541364	0.9752695394	0.4400698385	0.9027118644	0.9971116075
% 65 AND OLDER COUNTY	17.6%	13.4%	21.9%	15.9%	22.8%	16.9%	18.8%	15.7%	22.2%	18.5%	13.9%
% ESL COUNTY	6.2%	7.9%	5.4%	2.3%	0.5%	5.3%	9.5%	9.4%	2.2%	7.2%	9.5%
% DISABILITY STATUS	10.2%	9.5%	9.9%	7.4%	17.1%	10.5%	7.9%	9.2%	15.0%	14.2%	11.7%
% HH WITH COMPUTERS	92.1%	95.3%	73.1%	90.6%	84.1%	91.9%	94.0%	93.5%	89.3%	86.6%	88.6%
% HH WITH BROADBAND	85.1%	87.1%	63.7%	84.5%	71.4%	81.0%	90.2%	86.7%	81.8%	82.2%	81.1%
MEDIAN HH INCOME	$61,043	$62,653	$40,814	$47,669	$41,176	$60,682	$72,562	$60,800	$49,682	$42,194	$48,751
CENSUS COUNTY RANK	.	8	113	52	101	5	1	2	51	40	4
COUNTY POP PER SQ MILE	89.5	267.8	7.4	24.2	7.0	442.6	1,977.1	1,186.4	31.5	52.2	4,885.0
COUNTY DIVERSITY INDEX	40.8%	42.0%	8.8%	17.3%	15.5%	31.3%	54.8%	59.5%	18.3%	39.5%	62.7%
WHITE COUNTY	4,740,335	137,771	3,573	19,290	6,451	246368	624,703	419,542	19,800	21,629	129,368
% WHITE COUNTY	77.0%	75.0%	95.4%	90.8%	91.8%	82.4%	62.2%	58.5%	90.2%	76.5%	42.9%
BLACK COUNTY	699,840	17,882	.	.	.	.	245,168	156,542	.	3,176	128,993
% BLACK COUNTY	11.4%	9.7%	.	.	.	.	24.4%	21.8%	.	11.2%	42.8%
HISPANIC COUNTY	303,068	.	23	427	141	14,392	.	77,785	573	2,042	15,405
% HISPANIC COUNTY	4.9%	.	0.6%	2.0%	2.0%	4.8%	.	10.8%	2.6%	7.2%	5.1%
2+ RACES COUNTY	413,171	10,571	99	692	383	18,775	.	.	1,143	.	.
% 2+ RACES COUNTY	6.7%	5.8%	1.0%	3.3%	5.4%	6.3%	.	.	5.2%	.	.
ASIAN* COUNTY	133,377		.	.	.	.	48,552	.	.	.	.
% ASIAN* COUNTY	2.2%		.	.	.	.	4.8%	.	.	.	.

6.4.2 Press Release

Kennett volunteers needed for June 22 focus group on challenges with broadband access in Missouri

Researchers from the Community Innovation and Action Center at the University of Missouri–St. Louis are working with colleagues from MU Extension to study the challenges Missourians face with broadband access across the state.

They are seeking volunteers in or near Kennett to participate in the latest in a series of focus groups discussing broadband usage, connectivity and affordability. The focus group will last between 60 and 90 minutes beginning at 5 p.m. Thursday, June 22, at the MU Extension in Dunklin County (102 Slicer Street, Kennett, MO 63857-0160).

Interested volunteers can register at Qualtrics Experience Management and will receive further instructions on when, where and how to participate. They will receive $60 in compensation via a payment app for their time.

"In the modern world, particularly since the start of the COVID-19 pandemic, broadband access is a necessity," said Sara Mohamed, the engagement and equity lead in UMSL's Community Innovation and Action Center. "This project aims to understand the barriers to accessing reliable internet and how that affects Missourians' everyday life."

The work is being done is in collaboration with Missouri's Department of Economic Development. To date, they've conducted one in-person focus group in St. Louis and two more in Columbia. Future focus groups are planned in Kansas City, Missouri and in Eminence in Southern Missouri.

The researchers have also held several focus groups via Zoom as they try to gather feedback and opinions from people around the state.

The goal is to get a clear picture of what broadband access looks like for Missouri's citizens. The researchers have been tasked with reaching out to both rural and urban populations, and they're particularly interested in hearing from underserved populations, who have a harder time getting connected to broadband or the internet more generally. That includes English language learners, people with disabilities, people of color, lower-income individuals and previously incarcerated people.

Once they have completed the focus groups, they will prepare a report and submit it to the Department of Economic Development in late August or early September.

The research is part of the UM System's Broadband Initiative.

6.4.3 Recruitment Flier

6.4.4 Email Recruitment Template

Hello (insert contact name).

My name is _____ and I am from the Community Innovation and Action Center at UMSL. We are currently setting up focus groups to understand access to and use of broadband in the state of Missouri. This is a project being done in collaboration with the department of economic development for the state of Missouri.

Currently, we are recruiting folks to participate in the focus groups which are scheduled to take place in June of this year. Focus groups would be 60-90 minutes and would be in person at a convenient location, including local MU- extension offices. Participants will receive a $50 payment as a thank you for their time. We are looking for anyone who would be interested in discussing broadband access but are also specifically interested in people of color, individuals with disabilities, individuals on a low-income, older adults, people who have been incarcerated, and people whose primary language is not English.

If you have anyone you think would be interested in participating we would appreciate if you could forward them information about the project. To make this process as simple as possible for you, we have drafted an email template below for you to use and have attached a recruitment flier to this email. Please let us know if there are any other materials you might need and if you would like to further discuss the project, feel free to respond to this email.

Best,

Name

Email template:

Hello _____,

I hope you are doing well! I have recently been made aware of a project that is being conducted by the state's Department of Economic Development in conjunction with the University of Missouri. They are conducting focus groups to understand use of and access to broadband in Missouri. Focus groups would be 60-90 minutes and participants will receive a $50 payment via venmo or cashapp as a thank you for their participation.

I thought you might be interested in participating or would know folks who would be interested. If you are interested and would like more information, please either fill out the information at this link:https://umsl.az1.qualtrics.com/jfe/form/SV_0x3G3rteuVcF9dA or call the following number and leave a voicemail stating your name and a good call back number: (314) 514-5744.

All the best,

Name

6.4.5 Qualtrics Sign-Up Form

Broadband Focus Group Registration

Q2 Thank you so much for you interest in participating in a focus group to understand broadband use and access in Missouri. The focus groups will take between 60-90 minutes and you will receive a $50 compensation as a thank you for participating. This is a project by the University of Missouri- St. Louis and the Missouri Department of Economic Development in order to understand individuals use of and access to broadband internet. Please fill out the below information to register for a specific focus group taking place near you. Please note that registration does not guarantee a spot in the focus group. We will reach out to you to confirm your registration.

¡Hola! Gracias por expresar su interés en participar en un grupo de discusión. Los grupos de discusión durarán entre 60 y 90 minutos y recibirá una compensación de 50 dólares como agradecimiento por participar. Se trata de un proyecto de la Universidad de Missouri- St. Louis y el Departamento de Desarrollo Económico de Missouri para entender el uso y el acceso de las personas a Internet de banda ancha. Por favor, rellene la siguiente información para registrar a un grupo cerca de usted. Para completar la encuesta en español, haga clic en el botón de la esquina superior derecha que dice "Inglés"

Q1 What is your name?

_____

Q2 What is a good email address to reach you?

_____

Q3 What is a good phone number to reach you?

_____

Q4 What city/town do you live in? (Please note that you must live in Missouri to participate in this study!)

Q5 What is your zip code? (Please note that you must live in Missouri to participate in this study!)

_____

Q6 I identify as... (Select all that apply) *

○ African American/Black (1)

○ Asian (2)

○ White (3)

○ American Indian/Alaskan Native (4)

○ Native Hawaiian (5)

○ Pacific Islander (6)

○ Other (7) _____

Q7 Are you of Hispanic, Latinx, or of Spanish origin?

○ Yes (1)

○ No (2)

Q8 To which gender identity do you most closely identify?

○ Male (1)

○ Female (2)

○ Trans female/trans woman (3)

○ Trans male/trans man (4)

○ Gender queer/gender non conforming (5)

○ Two spirit (6)

○ Other (7) _____

Q9 What is your highest education level?

○ Some high school (1)

○ High school diploma/GED (2)

○ Associate's/technical degree (3)

○ College degree (4)

○ Graduate degree (5)

○ Other (6) _____

Q10 What category best represents your total annual household income for all members of the household, including income, retirement, social security, etc.?

O Less than $10,000 (1)

O $10,000 - $19,999 (2)

O $20,000 - $29,999 (3)

O $30,000 - $39,999 (4)

O $40,000 - $49,999 (5)

O $50,000 - $59,999 (6)

O $60,000 - $69,999 (7)

O $70,000 - $79,999 (8)

O $80,000 - $89,999 (9)

O $90,000 - $99,999 (10)

O $100,000 - $149,999 (11)

O More than $150,000 (12)

O Prefer not to answer (13)

Q11 How old are you? (Please note: You must be 18 years old or older to participate in a focus group)

○ Under 18 (1)

○ 18 - 24 (2)

○ 25 - 34 (3)

○ 35 - 44 (4)

○ 45 - 54 (5)

○ 55 - 64 (6)

○ 65 or over (7)

Q12 Are any of the following groups in your household? (including yourself)

○ A child under 18 years in age (1)

○ A current or former U.S. armed forces service member (2)

○ A person with a disability (3)

○ A person with limited English speaking or reading ability (4)

○ A person that has been incarcerated at times (5)

○ A person that has been homeless at times (6)

○ No one in household meets these criteria (7)

O A person who would be interested in participating in a Spanish speaking Zoom focus group (8)

O Prefer not to answer (9)

Q16 Do you have Cashapp or Venmo?

O Yes (1)

O No (2)

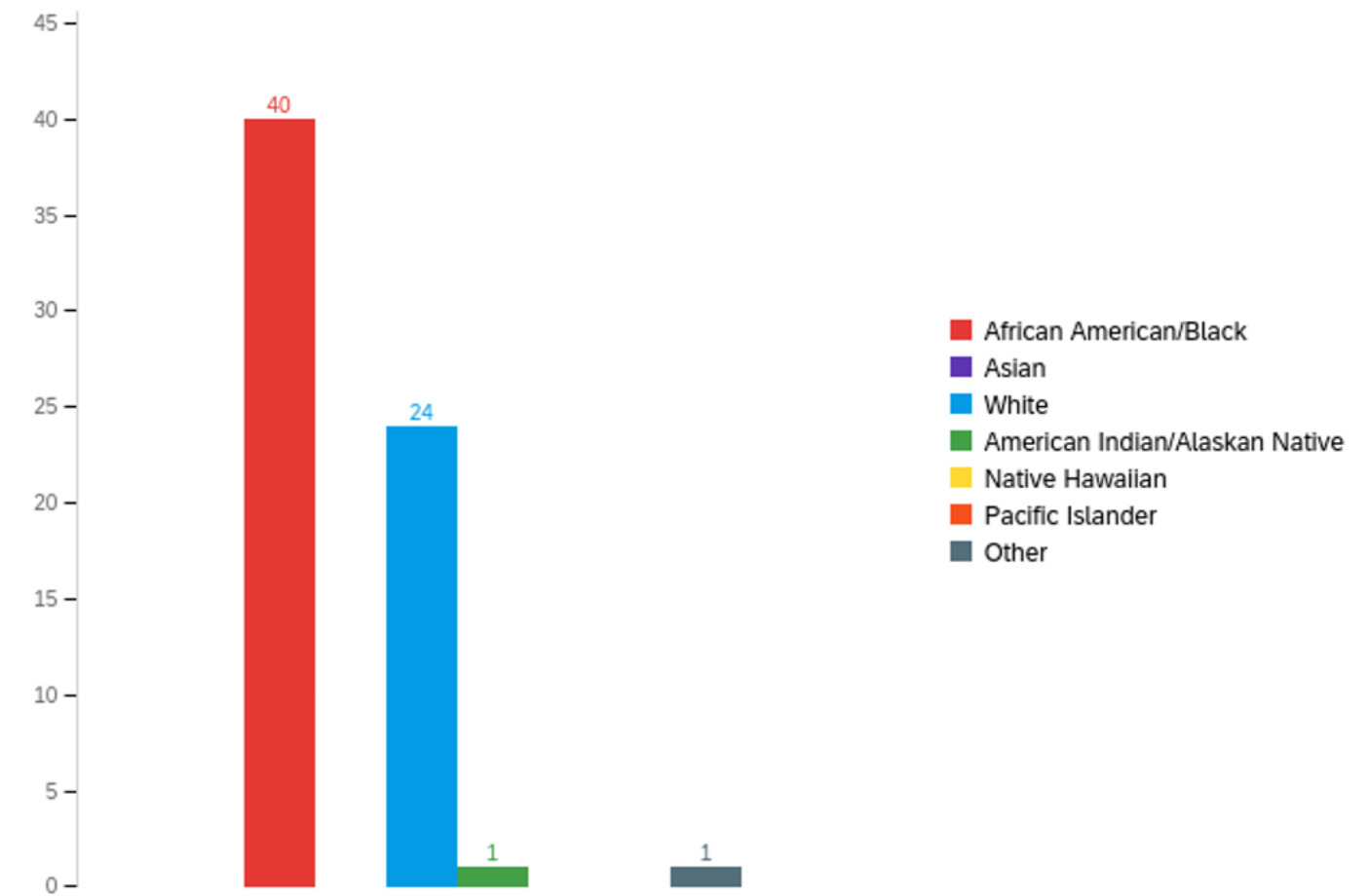Q17 Which app would you like to receive compensation on?
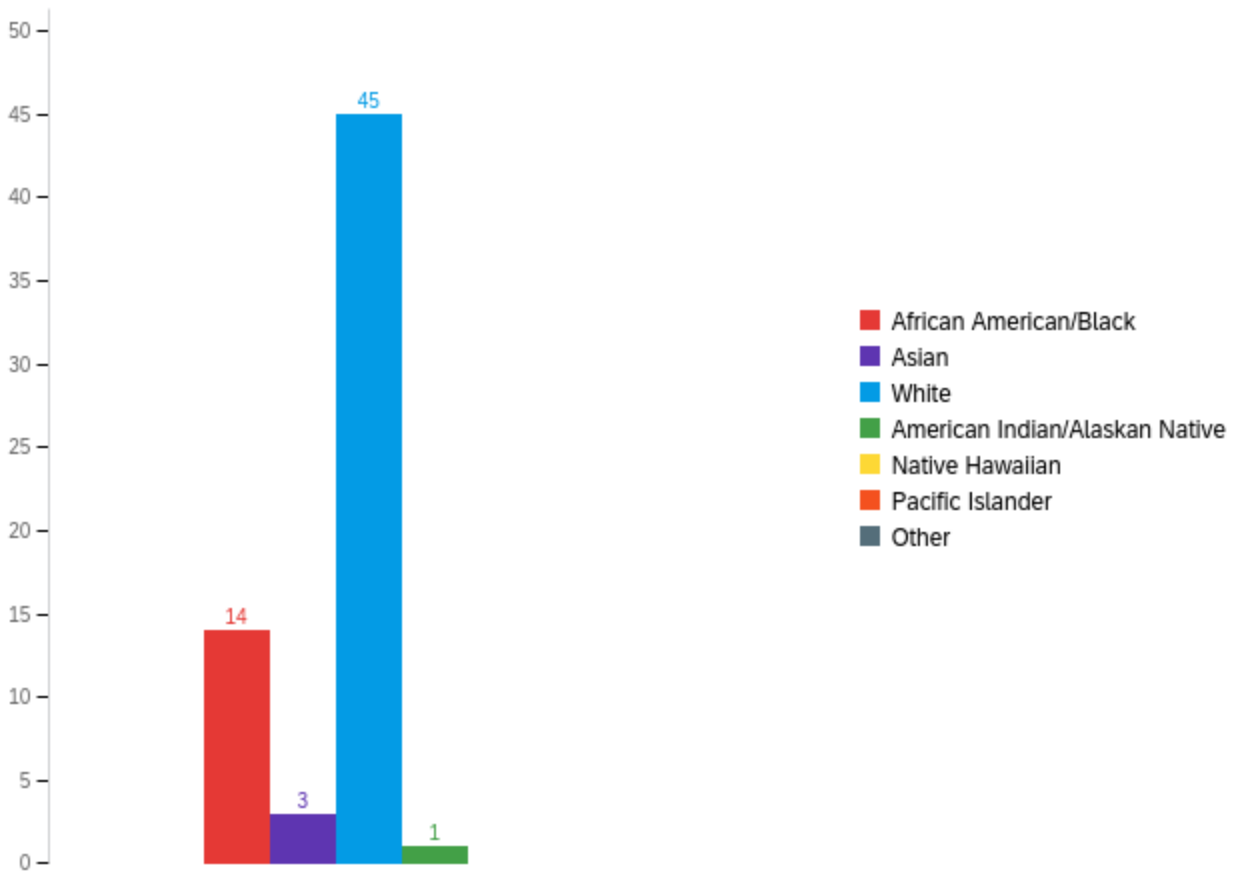
O Venmo (1)

O Cashapp (2)

Q18 What is your Venmo/Cashapp handle?

_____

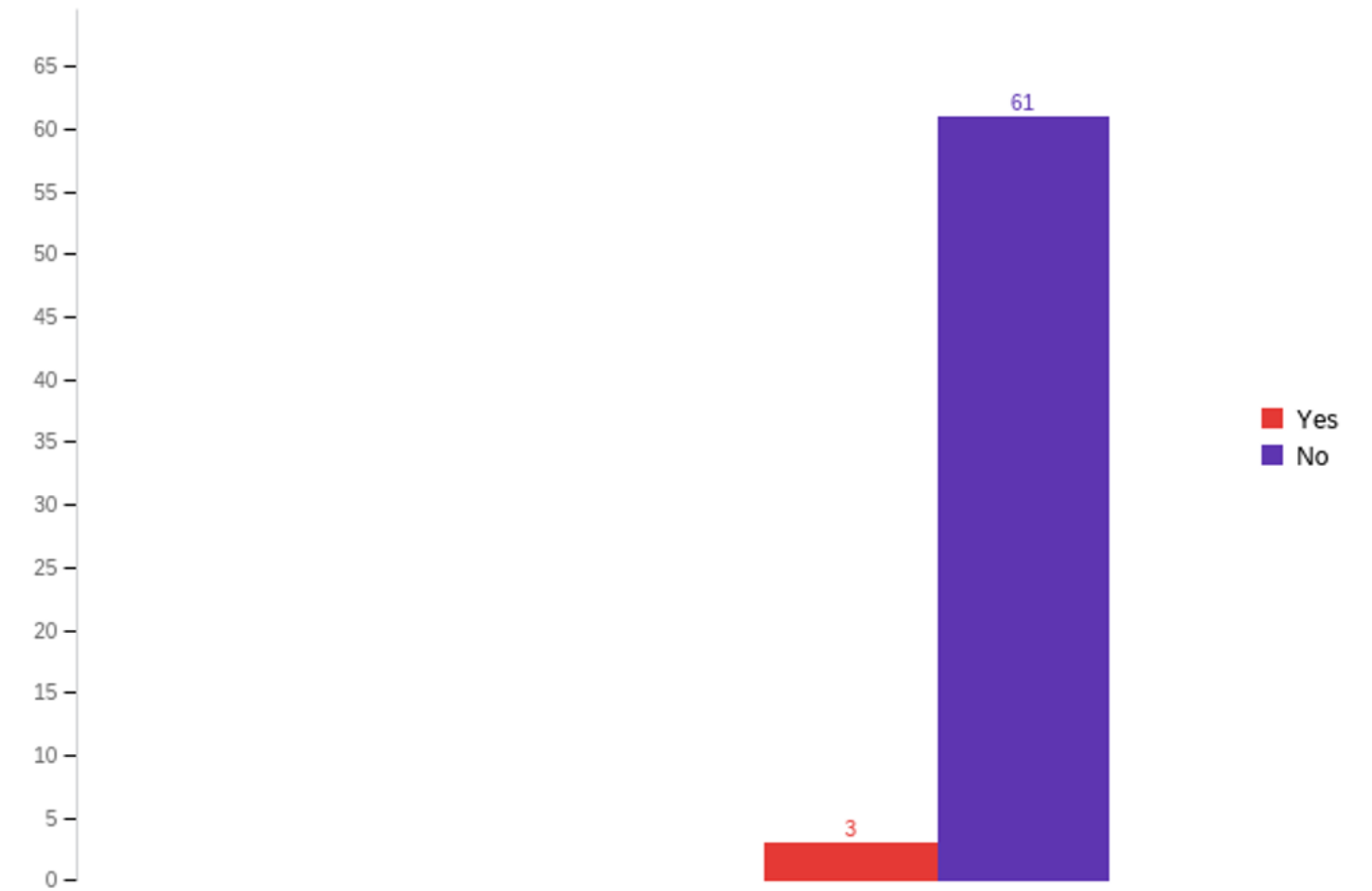## 6.4.6 Focus Group Study Participant Information
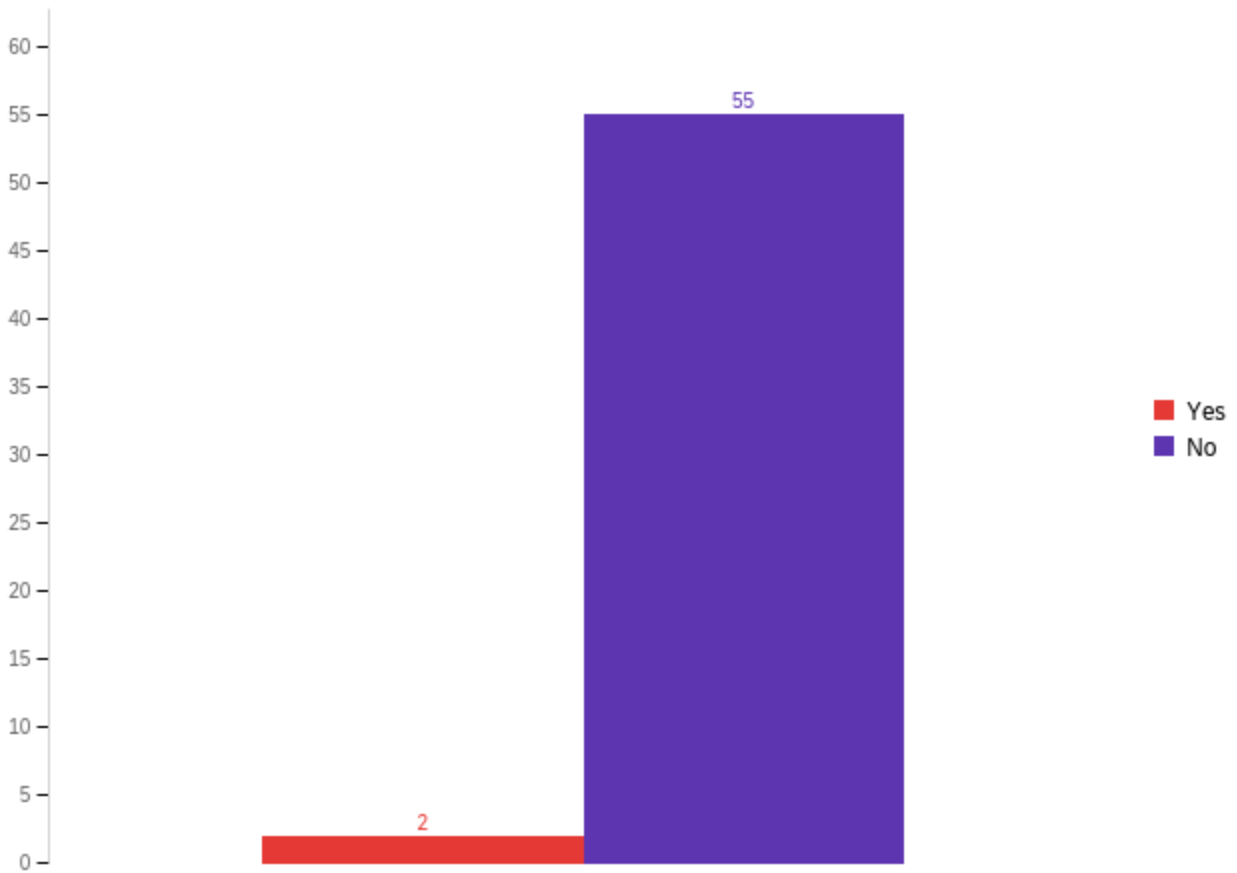### 6.4.6.1 Racial Demographics (In-person)

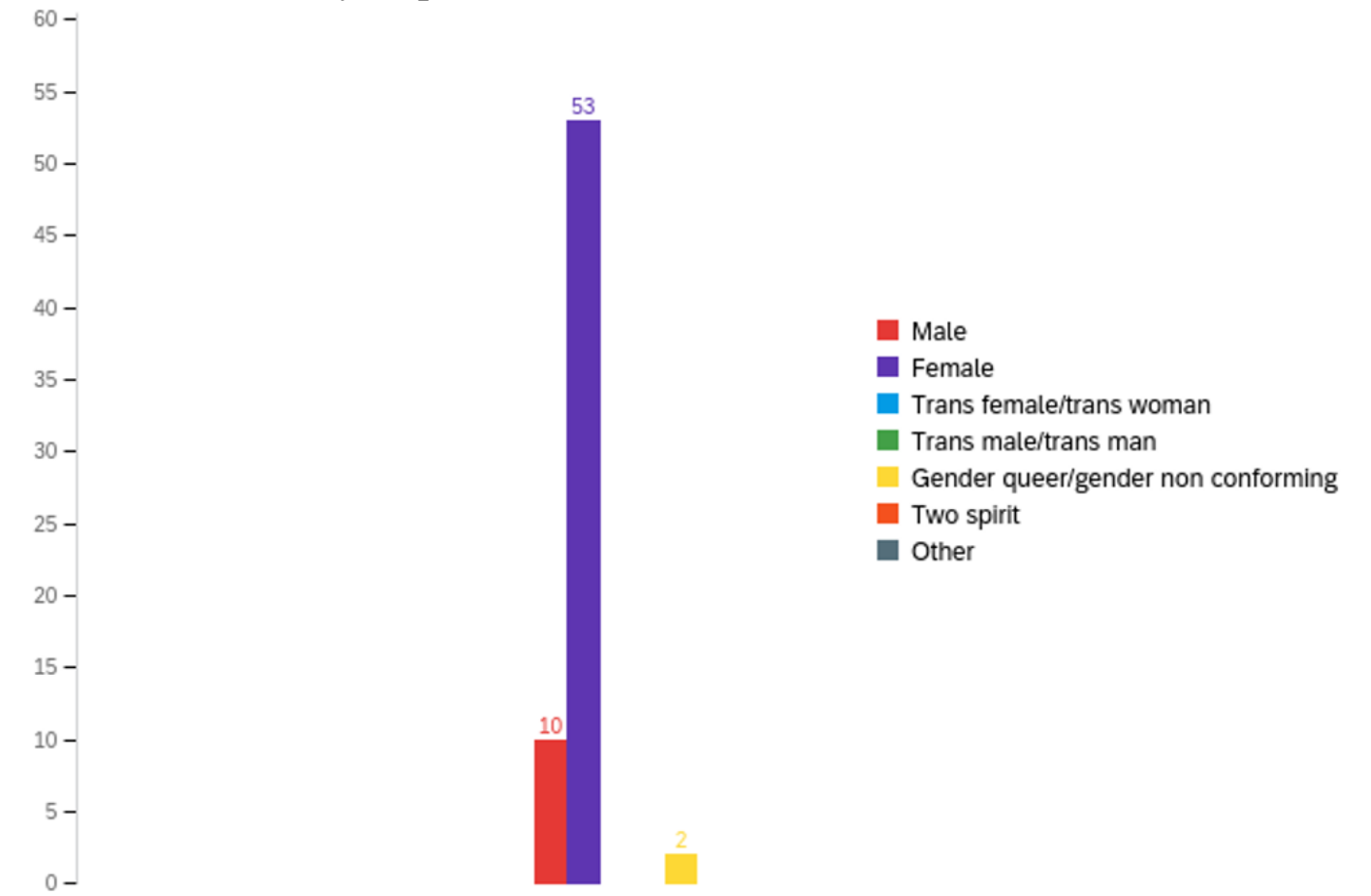## 6.4.6.2 Racial Demographics (Zoom)

6.4.6.3 Hispanic, LatinX, or Spanish Origin (In-person)
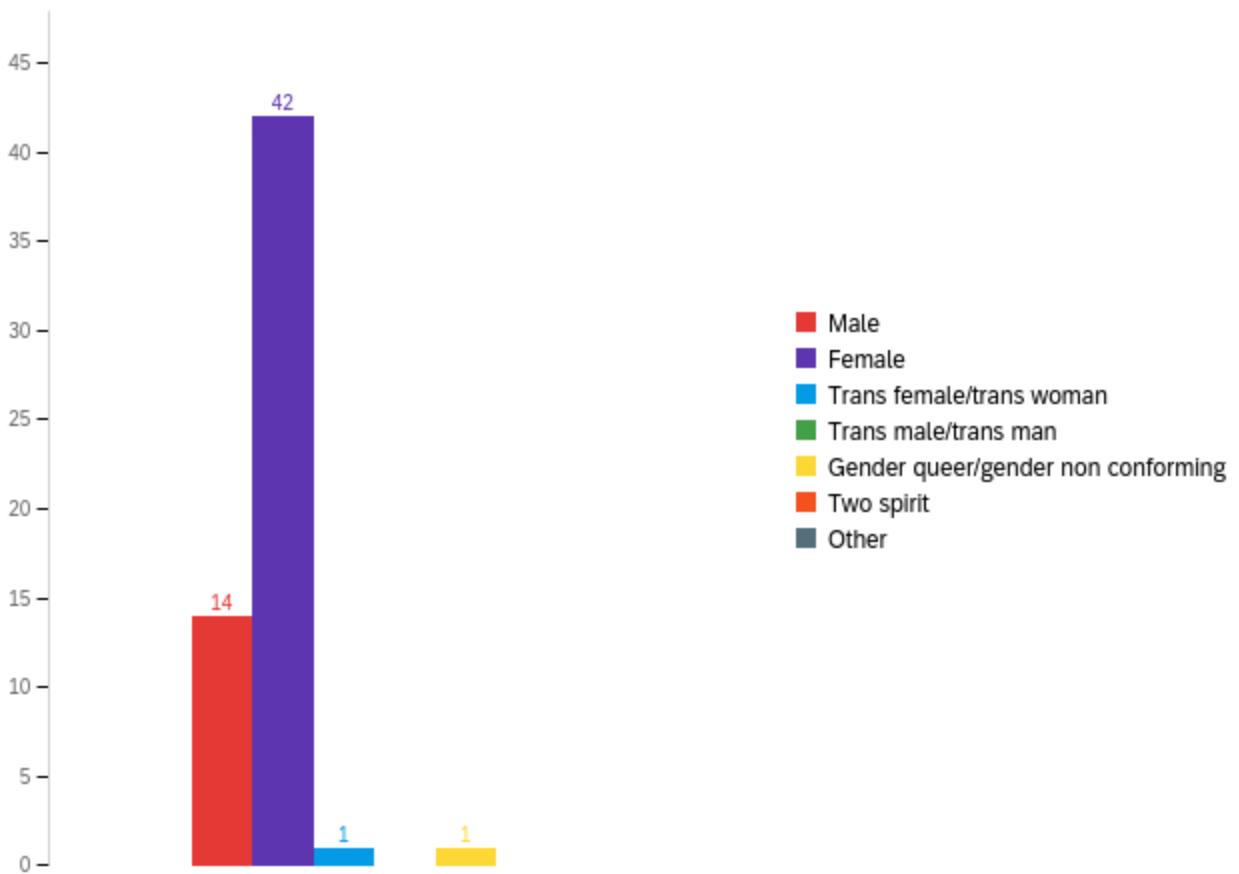
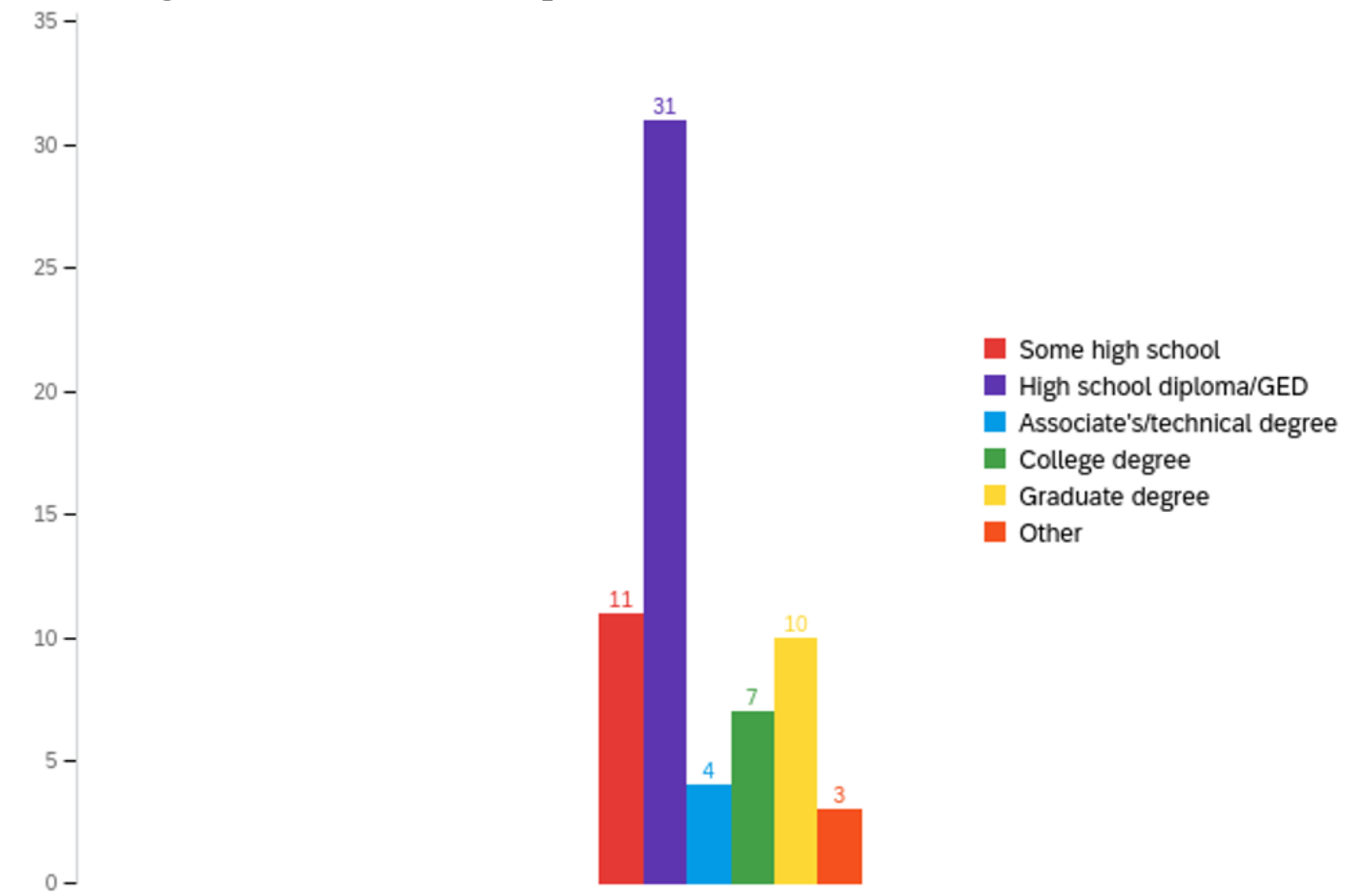## 6.4.6.4 Hispanic, LatinX, or Spanish Origin (Zoom)

6.4.6.5 Gender Identity (In-person)

6.4.6.6 Gender Identity (Zoom)

6.4.6.7 Highest Education Level (In-person)

6.4.6.8 Highest Education Level (Zoom)

- Some high school
- High school diploma/GED
- Associate's/technical degree
- College degree
- Graduate degree
- Other

6.4.6.9 Total Annual Household Income (In-person)

Legend:
- Less than $10,000
- $10,000 - $19,999
- $20,000 - $29,999
- $30,000 - $39,999
- $40,000 - $49,999
- $50,000 - $59,999
- $60,000 - $69,999
- $70,000 - $79,999
- $80,000 - $89,999
- $90,000 - $99,999
- $100,000 - $149,999
- More than $150,000
- Prefer not to answer

6.4.6.10   Annual Household Income

6.4.6.11Age Demographics (In-person)

Legend:
- Under 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65 or over

6.4.6.12 Age Demographics (Zoom)

6.4.6.13   Participant Demographics (In-person)

A child under 18 years in age
A current or former U.S. armed forces service member
A person with a disability
A person with limited English speaking or reading ability
A person that has been incarcerated at times
A person that has been homeless at times
No one in household meets these criteria
A person who would be interested in participating in a Spanish speaking Zoo...
Prefer not to answer

	Legend
■	A child under 18 years in age
■	A current or former U.S. armed forces service member
■	A person with a disability
■	A person with limited English speaking or reading ability
■	A person that has been incarcerated at times
■	A person that has been homeless at times
■	No one in household meets these criteria
■	A person who would be interested in participating in a Spanish speaking Zoo...
■	Prefer not to answer

6.4.7 Focus Group Guide

<u>Note: Incentives will take 1-3 weeks. We will want to remind participants of this.</u>

Remind the group to put cameras on if they can.
We would like to hear from everyone if possible
Must be from Missouri to be part of this group today

<u>Introduction</u>

Good afternoon and welcome to our session. Thanks for taking the time to join us to talk about broadband access in Missouri. My name is _____ and assisting me is _____. You were invited today to help us understand your access to and how you use internet.

We work for a center at the University of Missouri- St. Louis called the Community Innovation and action Center. We are conducting these focus groups in partnership with the MU extension offices and the state department of Economic Development. The goal of this project is to better understand internet access and barriers in order to improve access across the state.

There are no wrong answers but rather differing points of view. Please feel free to share your point of view even if it differs from what others have said. Keep in mind that we're just as interested in negative comments as positive comments.

So first, let's cover a few logistics. While _____ will be taking notes, we will also be recording this session in order to transcribe what's been said. Anything you say will be kept anonymous. If you are not comfortable with being recorded, you may leave now.

FOR ZOOM SESSIONS: Please remain on mute until others have finished speaking. While you may go off camera if you so choose, if you are able, please leave the camera on to encourage engagement.

With all that being said, let's go ahead and get started. Let's do a quick round of introductions. Briefly state your name and your pronouns if you so choose.

Introductions take place

Great, thanks for those introductions. Let's go ahead and begin our discussion.

First, we'd like to set a few ground rules:

Ground Rules:

Respect others and their opinions

You are in control of what you share and how much; if you need to take a break, feel free to do so

WAIT/WAINT - Why am I talking? Why am I not talking?

speak one at a time.

minimize side conversations.

Anything else?

Okay, we will now start recording. Press Record (for Zoom, record to cloud) on both recorders

To start, we would like to understand what everyone's access to internet looks like. Please start by describing whether you have access to the internet and how and where you use the internet.

Are you able to access it in your home, is it slow/fast etc.

On what type of device do you access the internet? (e.g. smartphone computer etc)

If you've had difficulty accessing the internet, what have been some of the barriers to accessing it?

For what purposes do you use the internet?

Do you work from home?

Exclusively for fun/pleasure?

Education?

What do you enjoy about having broadband/internet access?

How would a lack of internet access affect your day to day life?

Have you ever had to not pay for a bill in order to keep your internet?

Please tell us about the time and money you spend trying to access the internet? (i.e. traveling to places where you will have reception, paying for wi-fi, etc)

What if any concerns do you have about using the internet?

Prompt on safety, surveillance etc if needed

Are there ways that you would like to use the internet that you are unable to due to a lack of training or assistance?

What has been done to advocate for better internet access in your area?

Those are all the questions we have for you today. Do you have any questions or concerns for us?

6.5 *Record of Public Comment and Actions Taken as a Result*

The MO Office of Broadband Development (MO OBD) conducted its public comment for the Digital Opportunity Plan via web survey. All commenters were provided a full copy of the plan and asked to respond to several pages of pre-prepared questions. On the final page of the survey respondents were provided a blank space to provide any additional comments they may have had that weren't directly addressed in the previous sections. At the conclusion of the survey all respondents received an automated response thanking them for their time and providing contact information for those who had additional comments to provide.

The additional documents uploaded into the *Record of Public Comments and Actions Taken* area of the submission portal verify MO OBD's receipt of nearly 500 comments in response to the public comment survey. Beyond the automated response referenced above, it would have been very difficult to issue a direct response to each of the public comment survey respondents and meet NTIA deadlines for submission of the plan. The public comment was further complicated by the fact that of the nearly 500 comments received, fewer than 10% were in direct response to the Digital Opportunity Plan. Unrelated responses included solicitations for improved broadband access, comments bemoaning the prioritization of equity regarding the funding, and comments debating the merits of state sponsored broadband deployment. MO OBD received 25 comments which provided feedback that could be used to improve the plan.

The comments received that were directly related to the Digital Opportunity Plan and the actions taken in response can be found on the next page.

Public Comment	OBD Action Taken in Response
Too vague on what "equity" pertains to. Is it about making broadband accessible to all Missourians or targeting specific communities and groups which amounts to a complete waste of resources."	Definition for OBD's understanding of equity was added to plan.
Its wrote in lawyer speak	Where possible, OBD simplified language for the ease of the reader.
Too much emphasis on creating "hubs" to aggregate use of digital opportunities. The internet is NOT about hopping on buses , or hiking , or driving for 10 minutes to 2 hours just to get access to efficient & faster digital access. Oxymoronic to think a person should travel to a place other than their own home to get higher internet speeds.	Added "Meet them where they are" as a guiding principle.
Please consider adding the term adult basic education (ABE) to the plan to ensure that those who receive internet access are able to effectively utilize it	Added enhancing ABE to plan as goal for implementation.
The vision statement is clear; however, there do not seem to be broad goals on how to achieve that vision. The state will invest new federal resources (BEAD and DEA) to ensure that adequate infrastructure is available in all areas of the state, and that all households and businesses have affordable access to the technology, to devices and to training necessary for meaningful use for economic success, education, health care and social connections.	Language added to clarify plan's goals.
1. While the plan mentions some resources and programs that could help individuals with language barriers, it does not explicitly propose a clear strategy to overcome the barriers. We consider it necessary to establish a strategy that meets the needs of a population with language barriers, which for us, exceeds the number estimated by the Census. 2. Although the plan identifies some barriers and suggests some tools to promote and support digital equity, it still needs a lot of work and more precise	Increased size of minimum grant to be provided via capacity grant provided it will be permittable under grant guidelines.

proposals for equitable and inclusive investment that achieves digital equity in the state. 3. The plan lists 14 organizations that promote Digital Equity and Inclusion. According to the Plan, last year the state supported a group of 10 organizations with $25,000, for a total of $250,000. HEDC suggests that this amount be higher, to be able to cover salaries and expenses of digital navigators, facilitators, and a digital literacy program that helps the inclusion of members of the community facing language barriers.	
As a national nonprofit organization focused on the device ownership aspect of digital equity, we are delighted to see the inclusion of devices as a goal within Missouri's plan. Owning a computer is crucial for thriving in the modern economy. Those without a computer are unable to harness the vast opportunities that the internet provides, such as employment, education, telehealth, commerce, finance, communication, and much more. Everyone who needs a computer should have one. This is a watershed moment for advancing digital equity. We offer this feedback as a means to share our unique perspective, leveraging nearly 40 years of work on the issue of device ownership, a national lens into how states are approaching the issue, and our role in administering a nationwide practitioner network (including members in Missouri). We are truly and sincerely vested in your success. We would like to emphasize four overarching points: Large screen device ownership: Personal device ownership provides a unique computing experience that cannot be replicated through public use of computers or shared devices. Large screen devices such as laptops, desktops, Chromebooks, and tablets, are critical for a full and equitable computing experience. While smartphones are often more affordable than the upfront cost of a computer, evidence shows the use of	Replaced term "devices" with "large screen devices" throughout the plan. Increased emphasis on building a "sustainable ecosystem" for devices recycling and refurbishment.

smartphones alone may limit the range of one's online activity and depth of overall digital skills. Ecosystem approach: To ensure that all Missouri residents are able to obtain a free or low cost computer, establishing a robust supply of free and affordable devices through accessible, resilient, community-level distribution systems is critical. Systems thinking is required, with active involvement from a diverse range of actors and stakeholders. Digitunity's Methodology for a Sustainable Device Ecosystem (found here) provides a framework for addressing this issue on a large scale. Sustainability: While short-term gains are possible, our collective efforts must aim for sustainable solutions that far outlast this five-year federal investment. Building a plan around merely purchasing devices would be shortsighted, missing this landmark opportunity to create comprehensive change. Instead, we must develop solutions that transform the way corporate, government, and institutional IT assets are managed at scale. Repurposing previously used technology for community support can make computer ownership more accessible. Technology reuse is a practical and environmentally friendly solution for expanding device ownership. Device quality and intended use: Affordable devices must be reliable; quantity cannot replace quality. It is also critical that the choice of device matches a recipient's intended use and context. While less expensive devices may be a quick win within a limited budget, a healthy device ecosystem will provide economical solutions that meet the full range of recipients' needs.	
Envision providing services to all residents of the state equally.	Added language to reemphasize that there will be no preference based on location across the state.
Talk directly to the people that need it.	Committed office to supporting local coalition building to guide implementation. OBD also

	adjusted the coordination and outreach strategy to place increased importance on direct engagement with covered populations.
Adult Education and Literacy (AEL) is Title II of the Workforce Innovation and Opportunity Act (WIOA). A division of the Missouri Department of Elementary and Secondary Education (DESE), AEL provides free virtual and face-to-face classroom instruction to eligible Missourians, including digital literacy, English acquisition, reading, and math. DESE AEL is the primary provider of education services to over 10,000 adults in many of the focus populations. For this reason, Missouri's Digital Equity (DE) Plan should include DESE AEL as a resource and partner. The DE Plan identifies, on page 2, the covered populations most adversely impacted by the digital divide. Those populations include justice-involved individuals, English learners, and individuals with low literacy levels, the primary populations that DESE AEL serves. However, in section 3.1.2, "Missouri Based Resources," the DE Plan does not list DESE AEL.	Added DESE AEL and its role to the plan.
The DEA plan demonstrates a focus on allowing local partners to implement the strategies. Don't forget local "for profit "businesses in the community whom already serving in these capacities	Added language to indicate OBD willingness partner with for profit entities provided they do not earn a profit from activities utilizing DEA funds.
The plan provides a excellent broad vision for Digital Equity. Specifics are harder to identify. The Vision is spot on: enabling citizens to utilize the full capacity of the internet in order to enhance economic outcomes. As such, OBD strives every day to realize the vision of a Missouri where every citizen, regardless of their financial, geographic or demographic background, has access to the complete set of digital skills, technology, and resources necessary to realize their full potential within the digital economy.	To the greatest extent possible in the absence of a Capacity Grant NOFO, OBD added specificity to the plans proposed activities and processes.

The devil will be in the details and how the plan is executed.	
More in-depth vision statement and how it aligns with goals/objectives. Adoption - focus on improving quality of life and include goals that are closely associated. Tie goal statements to three grand challenges - health, economic prosperity, education. Clearer goal statements that align to more specific outcomes can more readily help address needs and achieve goals. For example: • Include in MoDOP some specific desired outcomes related to the use of broadband applications in ways that increase the health, education and economic opportunities of Missourians. Examples: o Increase online degree or online certification program participation by x% each year. o Increase online routine physician visits by x% per year and reduce overuse of ER visits by x% per year. o Increase the number of online business startups by x% per year. Of course, many more similar outcomes that could be added, the ones listed likely need to be modified, and other outcomes may be appropriate for specific populations. However, by establishing outcomes OBD and private partners can focus funding criteria to programs curriculum most likely to achieve desired results and set objective measures to benchmark success. • Require (or strongly encourage through grant scoring criteria) all BEAD applicants to submit a Local Digital Adoption Plan along with their proposal for BEAD funding. One goal here would be to develop greater synergy between internet access funding (BEAD grants for a project) and the desired public benefit (outcomes) expected as a result of adoption of internet-based applications. A secondary benefit should be an increase in demand for internet service (higher subscriber revenues and a higher "take rate") through implementation of the Local Digital Adoption Plan as new internet networks go	Added timelines, baselines, and desired percentages to the plan's measurable objectives.

online. This could greatly improve network economic sustainability in low population density areas. The Local Digital Adoption Plan could be funded through MoDOP funding be or funds provided by other community partners. OBD should seek NTIA approval/confirmation that self-funded MoDOP costs would count as part of the BEAD project's 25% match requirement. • In addition to ACP, add creation of and/or use of other existing state programs to fund broadband access and internet connected devices more affordable to at-risk populations. For example, utilize existing a DED small business funding program to provide individuals free training related to the establishment of an online business and, following successful completion of the course, funding of the cost of digital devices for that business, along with access to the internet for some reasonable "start-up" period.	
Disabled people need more help. Missouri doesn't supplement those of us on SSI and disabled. The ACP program is not sufficient to make enough of a difference. Seems like we can do more to help disabled people afford and have access high speed internet and high-quality equipment.	Added resources serving Individuals with disabilities to the asset inventory and MoDAM.
The following are names of community-based organizations (CBOs) in the Kansas City, MO area that were not included in the Digital Opportunity Plan under Missouri Resources and can help with the implementation of digital inclusion programming: Urban Technology Empowered Communities Front Porch Alliance Guadalupe Center, Inc. Jewish Vocational Service The Kansas City Metropolitan Lutheran Ministry	Added these groups to MoDAM.
The Mid-Continent Public Library serves a sizable portion of metro KC and has offered devices, public access, and training. All	Added more thorough descriptions about library services to the asset inventory.

libraries in MO have some capacity, including public access computers. PCs for People has provided exceptional support to residents needing devices and training and are not listed. Jewish Vocational Services provides digital training and support to refugees/immigrants in KC.	
Device type clarification: While devices are mentioned throughout Missouri's plan, there is not a clear goal to prioritize large-screen computers over smartphones, and to set minimum specifications and quality thresholds. Only using smartphones to interact with the online world is limiting. Clarifying this distinction throughout the plan for large screen device ownership will ensure that the focus remains on providing individuals with the tools necessary for full digital access and participation. Support for device deployment: Planning is required for deployment of computers to Covered Populations as it is a complex, multi-step, multifaceted process. Specific training and support should be provided to entities that are tasked with providing devices to Covered Populations. Intentional effort should be placed on developing a deployment network through community-based organizations, with formalized connections made between device sources in populated hubs and rural deployment points. While public libraries are often thought of in this role, many libraries played this role during the pandemic (via federal Emergency Connectivity Funds) and found that they were ill-equipped and not interested in further serving as deployment partners in the future. It will be important to ensure that deployment partners are interested, have the capacity, and are supported in this role. Technical support: A more detailed strategy for technical support of devices is needed in the plan. It's important to note that Digital Navigators and public libraries are typically not equipped or resourced to provide in-depth technical support. These services can be provided, in part, by the device supplier and additional planning would be required. Device essentials: Supports are needed, in addition to a computer, for specific Covered	See comment above.

Populations to meaningfully use their device. Our Device Essentials graphic (https://digitunity.org/community-forums/device-essentials/) outlines many of those supports and may be helpful to your team. Items such as headphones for telehealth and telework, desks for cramped senior apartments to cybersecurity software all have costs and require planning.	
Missouri Assistive Technology (at.mo.gov) is the state's federally funded assistive technology act program. It operates several programs that can assist individuals with disabilities in accessing appropriate assistive devices that can address barriers faced by individuals. Broadband access and devices alone are often not enough for individuals with disabilities, access to assistive technology that helps them use traditional devices is also a key component. I also want to make you aware that Missouri Assistive Technology is working with the Missouri Developmental Disabilities Council on a program to increase digital skills, digital literacy, assistive technology and awareness of the ACP among individuals with Intellectual and Developmental Disabilities. Reaching this population involves designing outreach and programs in different ways that we might see used for other populations. Furthering this conversation would be great.	Added MAT to both asset inventory and desired institutional partners. MAT representative has been added to CAM Advisory Council waitlist.
Jewish Family Services of Kansas City provides hardware on an ad-hoc basis; they also have a program called Handy@Home to pair senior citizens with volunteers for in-home internet/tech assistance. Goodwill of Western Missouri has a refurbished computer shop for cheap home computers. KC STEM Alliance connects kids with computers. KC Urban Advantage specifically helps kids in poverty with technology for academic achievement. Kansas City Digital Drive provides refurbished computers to low-income households for $50 each. PCs For The People (formerly	Added to MoDAM.

Connecting For Good) also provides extremely low-cost refurbished home computers.	
The availability of federal dollars for broadband provides a significant opportunity to expand telehealth programs to Missourians. Telehealth, especially since the COVID-19 pandemic, is in high demand throughout the county and is used at a rate 38 times the pre-COVID baseline. Telehealth also promotes better health outcomes for people living with chronic diseases, especially in areas where health services are more difficult to access. Accordingly, DEA grant dollars should focus on expanding telehealth and broadband inclusivity, as well as providing distance learning and telemedicine grants - depending on award status and amount. Additionally, the Tribal Broadband Connectivity Program should receive additional technical support from the Missouri Office of Broadband Development to ensure tribal nations achieve their goals in broadband access and connectivity.	Dedicated 4.5% of DE Capacity grant funding to developing a program to support telehealth expansion.
I would encourage you to think through in more depth issues around disability and seek to understand better the unique issues this population faces. I was a bit surprised that there weren't more disability specific organizations listed in the list of collaborating partners. I would also suggest strengthening these relationships.	Dedicated more space within the plan to discussing the needs of Missourians with disabilities.
Try a bulk mailing survey to ask what is available at each address.	Committed to reissuing MO Internet Survey at midpoint and endpoint of program period of performance in order to assess progress towards meeting measurable objectives.
"let locals Lead" will be the key to success. The majority of the plan indicate that state or regional organizations will likely receive the contracts/partnerships, etc. Hopefully local organizations as identified will be given consideration to benefit from any available funding as they are the most likely to be able to put a training and technical assistance program in place with sustainability.	Committed to developing OBD program guidelines that incentivize programs that can demonstrate substantive community support.

Missouri Assistive Technology, Missouri Developmental Disabilities Planning Council, Missouri Federation for the Blind, Independent Living Centers.	Added these groups to MoDAM.
This may be out of scope, but since the survey found that many of the Missourians who most need access to services are mobile-only, I would like to see a plan to make Missouri state websites more accessible on mobile devices. Many of the websites require a desktop to fill out forms or review information effectively, and many of them also put essential information in PDFs (downloading PDFs to a mobile device is not at all friendly to rural mobile users or users with data-restricted plans).	Developed measurable objective focused on making State of MO websites mobile user friendly.

Chapter 7:
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